

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNMOCD
HobbsFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMNM118723

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
CHEVRON U.S.A. INC.Contact: DENISE PINKERTON
E-Mail: leakejd@chevron.com3a. Address
6301 DEAUVILLE BLVD
MIDLAND, TX 797063b. Phone No. (include area code)
Ph: 432-687-73758. Well Name and No.
SD WE 15 FED P9 5H9. API Well No.
30-025-4364010. Field and Pool or Exploratory Area
JENNINGS;UPR BN SPR SHALE

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 15 T26S R32E Mer NMP 12FSL 1472FEL

11. County or Parish, State

LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Drilling Operations
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

THIS REPORT IS FOR THE SPUD, DRILLING OPERATIONS, AND COMPLETION OF THE SUBJECT NEW WELL.

PLEASE FIND ATTACHED:

- *Daily drilling operations and completion info
- *"As Drilled" C-102
- *Wellbore Schematic
- *Actual Wellpath Report
- *Perforation Summary
- *Frac Summary

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #398570 verified by the BLM Well Information System
For CHEVRON U.S.A. INC., sent to the Hobbs
Committed to AFMSS for processing by JENNIFER SANCHEZ on 12/20/2017 ()

Name (Printed/Typed) DENISE PINKERTON

Title PERMITTING SPECIALIST

Signature (Electronic Submission)

Date 12/20/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

SD WE 15 FED P9 #5H 30-025-43640
DRILLED NEW OIL WELL AS FOLLOWS:

04/21/2017: **SPUD WELL.** Drill 153 – 700'. TD surface hole.

SURFACE CASING

04/22/2017: Run 13 3/8", 54.5#, J-55 STC surface casing & set @ 689.

Schlumberger cemented w/TAI 827 sx Class C. DENSITY: 14.80, YIELD: 1.33, FLUID MIX RATIO: 6.37.
Returns to surface. 108 bbls of cement to surface.

Displace cement with 95 bbls of FW. Bump plug. Hold 600 psi over. Plug bumped on calculated displacement.

04/23/2017: Install test plug. Fill stack & choke manifold. Test full BOPE to 250 psi low/5000 psi high. (3500 high on annular)

04/24/2017: Test 13 3/8" surface casing to 1632 psi for 30 mins. Good test. Drill out float eqpt, cmt, & rathole to 700'. Drill 10' new formation to 710.

Drill 710' – 4543' (4-24-2017 / 4-26-2017)

INTERMEDIATE CASING

04/26/2017: TD intermediate hole.

RUN 9 5/8", 40#, L-80 LTC csg & set @ 4533.

Schlumberger cemented w/LEAD 1032 sx Class C. DENSITY: 11.90, YIELD: 2.43, FLUID MIX RATIO: 13.98
TAIL 462 sx Class C. DENSITY: 14.80, YIELD: 1.35, FLUID MIX RATIO: 6.35.

Displace cement w/338 bbls OBM. Bump plug w/500 psi over final circ pressure. Cement to surface: 225 bbls cement. Full returns throughout job. Plug bumped at calc displacement.

04/27/2017: Install pack off. Test to 5000 psi for 15 mins. Good test.

05/28/2017: FULL BOPE TEST. Test full BOPE to 250 psi low/5000 psi high (3500 psi on annular)

TOC @ 4452'. Test 9 5/8" csg to 2800 psi for 30 minutes. Good test. Drill out float eqpt, cmt, & rathole to 4543. Drill 10' new formation to 4553.

05/28/2017 / 06/07/2017: Drill 4553 – 13,995' TD

PRODUCTION CASING

06/08/2017: Run 5 1/2", 20#, HCP-110 TXP BTC casing to 13,985.

Schlumberger cemented w/LEAD 614 sx Class H. DENSITY: 11.50, YIELD: 2.77, FLUID MIX RATIO: 16.19.
LEAD 1005 sx Class H. DENSITY: 12.50, YIELD: 1.57, FLUID MIX RATIO: 8.47.

TAIL 124 sx CLASS H. DENSITY: 15.00, YIELD: 2.18, FLUID MIX RATIO: 9.55.

Displace cmt w/308 bbls of FW. Bump plug. Hold 750 psi over.

Lost returns 270 bbls into displacement. Plug bumped on proper displacement. Conduct 30 min inflow/negative test.

06/10/2017: RELEASE RIG @ 18:00 hrs.

COMPLETED NEW DRILL AS FOLLOWS:

TOC @ 2820'. PBTD @ 13,938'.

08/18/2017: MIRU.

08/19/2017: TIH w/GR/JB, CBL @ 9120'. Log CBL from 9120 to surface.

08/25/2017: Test production casing to 9800 psi 30 mins. Good.

09/26/2017: MIRU frac eqpt.

09/28/2017 through 10/14/2017: Perf & frac 23 stages Upper Bone Spring from 9337 – 13,818'.
Frac w/TotalProppant 7,210,491.00 lbs.

**SEE ATTACHED DETAILED PERF & FRAC REPORT

11/01/2017: Place well on production.

11/01/2017: Ran 2 7/8" tubing set @ 8837'. Packer @ 8829'.

11/02/2017: Release rig.

12/11/2017: On 24 hour OPT flowing:

Oil – 1004

Gas – 3242

Water – 1221

GOR – 3229

Tubing psi – 780

Casing psi – 77

Choke – 55/64

TOC – 2820'

SD WE 15 FED P9 #5H**30-025-43640 FRAC SUMMARY**

Interval Number	Link to Proppant	Proppant Mass (lb)	Cum Proppant Mass (lb)
1	100 mesh, 100 Mesh, Bulk Sand	2,307.00	3,137.00
1	100 mesh, 100 Mesh, Bulk Sand	14,161.00	17,298.00
1	100 mesh, 100 Mesh, Bulk Sand	6,019.00	23,317.00
1	100 mesh, 100 Mesh, Bulk Sand	5,373.00	28,690.00
1	100 mesh, 100 Mesh, Bulk Sand	77,744.00	106,434.00
1	40/70, PW 40/70, Bulk Sand	11,279.00	117,996.00
1	40/70, PW 40/70, Bulk Sand	1,325.00	119,321.00
1	40/70, PW 40/70, Bulk Sand	7,347.00	126,668.00
1	40/70, PW 40/70, Bulk Sand	43,441.00	170,109.00
1	40/70, PW 40/70, Bulk Sand	150,321.00	320,430.00
2	100 mesh, 100 Mesh, Bulk Sand	8,867.00	8,867.00
2	100 mesh, 100 Mesh, Bulk Sand	17,086.00	25,953.00
2	100 mesh, 100 Mesh, Bulk Sand	18,271.00	44,224.00
2	100 mesh, 100 Mesh, Bulk Sand	32,140.00	76,364.00
2	100 mesh, 100 Mesh, Bulk Sand	29,995.00	106,359.00
2	40/70, PW 40/70, Bulk Sand	15,983.00	122,741.00
2	40/70, PW 40/70, Bulk Sand	34,116.00	156,857.00
2	40/70, PW 40/70, Bulk Sand	49,476.00	206,333.00
2	40/70, PW 40/70, Bulk Sand	66,517.00	272,850.00
2	40/70, PW 40/70, Bulk Sand	43,421.00	316,271.00
3	100 mesh, 100 Mesh, Bulk Sand	2,797.00	4,134.00
3	100 mesh, 100 Mesh, Bulk Sand	7,244.00	11,378.00
3	100 mesh, 100 Mesh, Bulk Sand	10,600.00	21,978.00
3	100 mesh, 100 Mesh, Bulk Sand	16,232.00	38,210.00
3	100 mesh, 100 Mesh, Bulk Sand	11,949.00	50,159.00
3	40/70, PW 40/70, Bulk Sand	8,813.00	59,303.00
3	40/70, PW 40/70, Bulk Sand	18,356.00	77,659.00
3	40/70, PW 40/70, Bulk Sand	26,803.00	104,462.00
3	40/70, PW 40/70, Bulk Sand	31,610.00	136,072.00
3	40/70, PW 40/70, Bulk Sand	23,277.00	159,349.00
3	100 mesh, 100 Mesh, Bulk Sand	5,064.00	164,894.00
3	100 mesh, 100 Mesh, Bulk Sand	8,558.00	173,452.00
3	100 mesh, 100 Mesh, Bulk Sand	9,294.00	182,746.00
3	100 mesh, 100 Mesh, Bulk Sand	16,985.00	199,731.00
3	100 mesh, 100 Mesh, Bulk Sand	13,146.00	212,877.00
3	40/70, PW 40/70, Bulk Sand	8,889.00	222,498.00
3	40/70, PW 40/70, Bulk Sand	16,924.00	239,422.00
3	40/70, PW 40/70, Bulk Sand	24,079.00	263,501.00
3	40/70, PW 40/70, Bulk Sand	33,678.00	297,179.00
3	40/70, PW 40/70, Bulk Sand	23,153.00	320,332.00
4	100 mesh, 100 Mesh, Bulk Sand	4,278.00	4,318.00
4	100 mesh, 100 Mesh, Bulk Sand	8,033.00	12,351.00
4	100 mesh, 100 Mesh, Bulk Sand	9,498.00	21,849.00
4	100 mesh, 100 Mesh, Bulk Sand	15,756.00	37,605.00

4	100 mesh, 100 Mesh, Bulk Sand	17,485.00	55,090.00
4	40/70, PW 40/70, Bulk Sand	7,064.00	62,667.00
4	40/70, PW 40/70, Bulk Sand	16,816.00	79,483.00
4	40/70, PW 40/70, Bulk Sand	24,334.00	103,817.00
4	40/70, PW 40/70, Bulk Sand	31,568.00	135,385.00
4	40/70, PW 40/70, Bulk Sand	26,070.00	161,455.00
4	100 mesh, 100 Mesh, Bulk Sand	3,110.00	164,596.00
4	100 mesh, 100 Mesh, Bulk Sand	5,430.00	170,026.00
4	100 mesh, 100 Mesh, Bulk Sand	12,402.00	182,428.00
4	100 mesh, 100 Mesh, Bulk Sand	16,175.00	198,603.00
4	100 mesh, 100 Mesh, Bulk Sand	15,309.00	213,912.00
4	40/70, PW 40/70, Bulk Sand	8,050.00	222,012.00
4	40/70, PW 40/70, Bulk Sand	16,922.00	238,934.00
4	40/70, PW 40/70, Bulk Sand	25,309.00	264,243.00
4	40/70, PW 40/70, Bulk Sand	33,292.00	297,535.00
4	40/70, PW 40/70, Bulk Sand	35,862.00	333,397.00
5	100 mesh, 100 Mesh, Bulk Sand	3,170.00	4,137.00
5	100 mesh, 100 Mesh, Bulk Sand	7,403.00	11,540.00
5	100 mesh, 100 Mesh, Bulk Sand	9,064.00	20,604.00
5	100 mesh, 100 Mesh, Bulk Sand	16,335.00	36,939.00
5	100 mesh, 100 Mesh, Bulk Sand	17,183.00	54,122.00
5	40/70, PW 40/70, Bulk Sand	7,740.00	61,978.00
5	40/70, PW 40/70, Bulk Sand	16,437.00	78,415.00
5	40/70, PW 40/70, Bulk Sand	23,403.00	101,818.00
5	40/70, PW 40/70, Bulk Sand	31,993.00	133,811.00
5	40/70, PW 40/70, Bulk Sand	28,849.00	162,660.00
5	100 mesh, 100 Mesh, Bulk Sand	4,810.00	167,711.00
5	100 mesh, 100 Mesh, Bulk Sand	9,279.00	176,990.00
5	100 mesh, 100 Mesh, Bulk Sand	9,527.00	186,517.00
5	100 mesh, 100 Mesh, Bulk Sand	15,101.00	201,618.00
5	100 mesh, 100 Mesh, Bulk Sand	14,360.00	215,978.00
5	40/70, PW 40/70, Bulk Sand	8,818.00	225,122.00
5	40/70, PW 40/70, Bulk Sand	17,183.00	242,305.00
5	40/70, PW 40/70, Bulk Sand	24,781.00	267,086.00
5	40/70, PW 40/70, Bulk Sand	31,786.00	298,872.00
5	40/70, PW 40/70, Bulk Sand	25,668.00	324,540.00
6	100 mesh, 100 Mesh, Bulk Sand	4,049.00	4,145.00
6	100 mesh, 100 Mesh, Bulk Sand	8,713.00	12,858.00
6	100 mesh, 100 Mesh, Bulk Sand	8,993.00	21,851.00
6	100 mesh, 100 Mesh, Bulk Sand	16,591.00	38,442.00
6	100 mesh, 100 Mesh, Bulk Sand	16,872.00	55,314.00
6	40/70, PW 40/70, Bulk Sand	6,365.00	61,699.00
6	40/70, PW 40/70, Bulk Sand	17,206.00	78,905.00
6	40/70, PW 40/70, Bulk Sand	25,063.00	103,968.00
6	40/70, PW 40/70, Bulk Sand	32,892.00	136,860.00
6	40/70, PW 40/70, Bulk Sand	24,886.00	161,746.00
6	100 mesh, 100 Mesh, Bulk Sand	2,952.00	164,760.00

6	100 mesh, 100 Mesh, Bulk Sand	8,040.00	172,800.00
6	100 mesh, 100 Mesh, Bulk Sand	9,513.00	182,313.00
6	100 mesh, 100 Mesh, Bulk Sand	16,351.00	198,664.00
6	100 mesh, 100 Mesh, Bulk Sand	16,170.00	214,834.00
6	40/70, PW 40/70, Bulk Sand	6,891.00	221,840.00
6	40/70, PW 40/70, Bulk Sand	17,359.00	239,199.00
6	40/70, PW 40/70, Bulk Sand	24,590.00	263,789.00
6	40/70, PW 40/70, Bulk Sand	32,337.00	296,126.00
6	40/70, PW 40/70, Bulk Sand	24,958.00	321,084.00
7	100 mesh, 100 Mesh, Bulk Sand	4,184.00	4,744.00
7	100 mesh, 100 Mesh, Bulk Sand	8,022.00	12,766.00
7	100 mesh, 100 Mesh, Bulk Sand	9,172.00	21,938.00
7	100 mesh, 100 Mesh, Bulk Sand	16,140.00	38,078.00
7	100 mesh, 100 Mesh, Bulk Sand	14,596.00	52,674.00
7	40/70, PW 40/70, Bulk Sand	8,937.00	62,678.00
7	40/70, PW 40/70, Bulk Sand	16,392.00	79,070.00
7	40/70, PW 40/70, Bulk Sand	25,084.00	104,154.00
7	40/70, PW 40/70, Bulk Sand	32,120.00	136,274.00
7	40/70, PW 40/70, Bulk Sand	28,275.00	164,549.00
7	100 mesh, 100 Mesh, Bulk Sand	3,689.00	168,364.00
7	100 mesh, 100 Mesh, Bulk Sand	7,727.00	176,091.00
7	100 mesh, 100 Mesh, Bulk Sand	10,113.00	186,204.00
7	100 mesh, 100 Mesh, Bulk Sand	16,121.00	202,325.00
7	100 mesh, 100 Mesh, Bulk Sand	15,613.00	217,938.00
7	40/70, PW 40/70, Bulk Sand	10,041.00	228,487.00
7	40/70, PW 40/70, Bulk Sand	17,194.00	245,681.00
7	40/70, PW 40/70, Bulk Sand	22,881.00	268,562.00
7	40/70, PW 40/70, Bulk Sand	29,345.00	297,907.00
7	40/70, PW 40/70, Bulk Sand	21,001.00	318,908.00
8	100 mesh, 100 Mesh, Bulk Sand	3,756.00	4,420.00
8	100 mesh, 100 Mesh, Bulk Sand	7,931.00	12,351.00
8	100 mesh, 100 Mesh, Bulk Sand	9,853.00	22,204.00
8	100 mesh, 100 Mesh, Bulk Sand	16,010.00	38,214.00
8	100 mesh, 100 Mesh, Bulk Sand	17,284.00	55,498.00
8	40/70, PW 40/70, Bulk Sand	8,378.00	63,932.00
8	40/70, PW 40/70, Bulk Sand	14,469.00	78,401.00
8	40/70, PW 40/70, Bulk Sand	24,839.00	103,240.00
8	40/70, PW 40/70, Bulk Sand	32,171.00	135,411.00
8	40/70, PW 40/70, Bulk Sand	19,896.00	155,307.00
9	100 mesh, 100 Mesh, Bulk Sand	4,435.00	4,761.00
9	100 mesh, 100 Mesh, Bulk Sand	9,435.00	14,196.00
9	100 mesh, 100 Mesh, Bulk Sand	10,265.00	24,461.00
9	100 mesh, 100 Mesh, Bulk Sand	17,108.00	41,569.00
9	100 mesh, 100 Mesh, Bulk Sand	17,327.00	58,896.00
9	40/70, PW 40/70, Bulk Sand	8,926.00	68,152.00
9	40/70, PW 40/70, Bulk Sand	10,763.00	78,915.00
9	40/70, PW 40/70, Bulk Sand	24,183.00	103,098.00

9	40/70, PW 40/70, Bulk Sand	32,235.00	135,333.00
9	40/70, PW 40/70, Bulk Sand	23,502.00	158,835.00
9	100 mesh, 100 Mesh, Bulk Sand	5,720.00	164,600.00
9	100 mesh, 100 Mesh, Bulk Sand	8,264.00	172,864.00
9	100 mesh, 100 Mesh, Bulk Sand	9,521.00	182,385.00
9	100 mesh, 100 Mesh, Bulk Sand	16,568.00	198,953.00
9	100 mesh, 100 Mesh, Bulk Sand	16,019.00	214,972.00
9	40/70, PW 40/70, Bulk Sand	7,721.00	222,748.00
9	40/70, PW 40/70, Bulk Sand	16,160.00	238,908.00
9	40/70, PW 40/70, Bulk Sand	24,774.00	263,682.00
9	40/70, PW 40/70, Bulk Sand	32,191.00	295,873.00
9	40/70, PW 40/70, Bulk Sand	24,148.00	320,021.00
10	100 mesh, 100 Mesh, Bulk Sand	4,637.00	6,524.00
10	100 mesh, 100 Mesh, Bulk Sand	8,913.00	15,437.00
10	100 mesh, 100 Mesh, Bulk Sand	10,895.00	26,332.00
10	100 mesh, 100 Mesh, Bulk Sand	17,696.00	44,028.00
10	100 mesh, 100 Mesh, Bulk Sand	16,791.00	60,819.00
10	40/70, PW 40/70, Bulk Sand	8,481.00	69,328.00
10	40/70, PW 40/70, Bulk Sand	15,817.00	85,145.00
10	40/70, PW 40/70, Bulk Sand	25,398.00	110,543.00
10	40/70, PW 40/70, Bulk Sand	32,026.00	142,569.00
10	40/70, PW 40/70, Bulk Sand	29,458.00	172,027.00
10	100 mesh, 100 Mesh, Bulk Sand	4,733.00	177,410.00
10	100 mesh, 100 Mesh, Bulk Sand	8,571.00	185,981.00
10	100 mesh, 100 Mesh, Bulk Sand	11,125.00	197,106.00
10	100 mesh, 100 Mesh, Bulk Sand	17,541.00	214,647.00
10	100 mesh, 100 Mesh, Bulk Sand	21,181.00	235,828.00
10	40/70, PW 40/70, Bulk Sand	8,639.00	244,520.00
10	40/70, PW 40/70, Bulk Sand	19,801.00	264,321.00
10	40/70, PW 40/70, Bulk Sand	17,874.00	282,195.00
10	40/70, PW 40/70, Bulk Sand	22,027.00	304,222.00
10	40/70, PW 40/70, Bulk Sand	23,342.00	327,564.00
11	100 mesh, 100 Mesh, Bulk Sand	3,927.00	4,164.00
11	100 mesh, 100 Mesh, Bulk Sand	8,380.00	12,544.00
11	100 mesh, 100 Mesh, Bulk Sand	9,286.00	21,830.00
11	100 mesh, 100 Mesh, Bulk Sand	16,334.00	38,164.00
11	100 mesh, 100 Mesh, Bulk Sand	15,593.00	53,757.00
11	40/70, PW 40/70, Bulk Sand	7,449.00	61,331.00
11	40/70, PW 40/70, Bulk Sand	17,031.00	78,362.00
11	40/70, PW 40/70, Bulk Sand	24,806.00	103,168.00
11	40/70, PW 40/70, Bulk Sand	32,222.00	135,390.00
11	40/70, PW 40/70, Bulk Sand	23,559.00	158,949.00
11	100 mesh, 100 Mesh, Bulk Sand	5,685.00	164,661.00
11	100 mesh, 100 Mesh, Bulk Sand	8,171.00	172,832.00
11	100 mesh, 100 Mesh, Bulk Sand	9,488.00	182,320.00
11	100 mesh, 100 Mesh, Bulk Sand	16,390.00	198,710.00
11	100 mesh, 100 Mesh, Bulk Sand	15,561.00	214,271.00

11	40/70, PW 40/70, Bulk Sand	7,834.00	222,136.00
11	40/70, PW 40/70, Bulk Sand	16,794.00	238,930.00
11	40/70, PW 40/70, Bulk Sand	24,733.00	263,663.00
11	40/70, PW 40/70, Bulk Sand	32,225.00	295,888.00
11	40/70, PW 40/70, Bulk Sand	25,316.00	321,204.00
12	100 mesh, 100 Mesh, Bulk Sand	4,042.00	4,042.00
12	100 mesh, 100 Mesh, Bulk Sand	7,694.00	11,736.00
12	100 mesh, 100 Mesh, Bulk Sand	9,457.00	21,193.00
12	100 mesh, 100 Mesh, Bulk Sand	16,261.00	37,454.00
12	100 mesh, 100 Mesh, Bulk Sand	16,477.00	53,931.00
12	40/70, PW 40/70, Bulk Sand	9,429.00	63,360.00
12	40/70, PW 40/70, Bulk Sand	17,753.00	81,113.00
12	40/70, PW 40/70, Bulk Sand	25,232.00	106,345.00
12	40/70, PW 40/70, Bulk Sand	30,734.00	137,079.00
12	40/70, PW 40/70, Bulk Sand	21,704.00	158,783.00
12	100 mesh, 100 Mesh, Bulk Sand	6,011.00	165,831.00
12	100 mesh, 100 Mesh, Bulk Sand	8,133.00	173,964.00
12	100 mesh, 100 Mesh, Bulk Sand	9,080.00	183,044.00
12	100 mesh, 100 Mesh, Bulk Sand	13,845.00	196,889.00
12	100 mesh, 100 Mesh, Bulk Sand	18,228.00	215,117.00
12	40/70, PW 40/70, Bulk Sand	8,379.00	223,684.00
12	40/70, PW 40/70, Bulk Sand	14,727.00	238,411.00
12	40/70, PW 40/70, Bulk Sand	24,274.00	262,685.00
12	40/70, PW 40/70, Bulk Sand	23,744.00	286,429.00
12	40/70, PW 40/70, Bulk Sand	31,883.00	318,312.00
13	100 mesh, 100 Mesh, Bulk Sand	4,077.00	4,200.00
13	100 mesh, 100 Mesh, Bulk Sand	8,120.00	12,320.00
13	100 mesh, 100 Mesh, Bulk Sand	9,656.00	21,976.00
13	100 mesh, 100 Mesh, Bulk Sand	16,226.00	38,202.00
13	100 mesh, 100 Mesh, Bulk Sand	16,206.00	54,408.00
13	40/70, PW 40/70, Bulk Sand	7,941.00	62,611.00
13	40/70, PW 40/70, Bulk Sand	15,800.00	78,411.00
13	40/70, PW 40/70, Bulk Sand	24,770.00	103,181.00
13	40/70, PW 40/70, Bulk Sand	32,148.00	135,329.00
13	40/70, PW 40/70, Bulk Sand	25,562.00	160,891.00
13	100 mesh, 100 Mesh, Bulk Sand	3,612.00	164,693.00
13	100 mesh, 100 Mesh, Bulk Sand	8,332.00	173,025.00
13	100 mesh, 100 Mesh, Bulk Sand	9,334.00	182,359.00
13	100 mesh, 100 Mesh, Bulk Sand	17,256.00	199,615.00
13	100 mesh, 100 Mesh, Bulk Sand	14,322.00	213,937.00
13	40/70, PW 40/70, Bulk Sand	8,013.00	222,108.00
13	40/70, PW 40/70, Bulk Sand	18,335.00	240,443.00
13	40/70, PW 40/70, Bulk Sand	23,748.00	264,191.00
13	40/70, PW 40/70, Bulk Sand	31,721.00	295,912.00
13	40/70, PW 40/70, Bulk Sand	25,074.00	320,986.00
14	100 mesh, 100 Mesh, Bulk Sand	3,677.00	4,342.00
14	100 mesh, 100 Mesh, Bulk Sand	8,050.00	12,392.00

14	100 mesh, 100 Mesh, Bulk Sand	9,470.00	21,862.00
14	100 mesh, 100 Mesh, Bulk Sand	17,940.00	39,802.00
14	100 mesh, 100 Mesh, Bulk Sand	15,388.00	55,190.00
14	40/70, PW 40/70, Bulk Sand	8,342.00	63,750.00
14	40/70, PW 40/70, Bulk Sand	17,232.00	80,982.00
14	40/70, PW 40/70, Bulk Sand	22,844.00	103,826.00
14	40/70, PW 40/70, Bulk Sand	32,830.00	136,656.00
14	40/70, PW 40/70, Bulk Sand	26,903.00	163,559.00
14	100 mesh, 100 Mesh, Bulk Sand	4,845.00	168,965.00
14	100 mesh, 100 Mesh, Bulk Sand	8,306.00	177,271.00
14	100 mesh, 100 Mesh, Bulk Sand	5,989.00	183,260.00
14	100 mesh, 100 Mesh, Bulk Sand	15,484.00	198,744.00
14	100 mesh, 100 Mesh, Bulk Sand	13,369.00	212,113.00
14	40/70, PW 40/70, Bulk Sand	9,047.00	221,383.00
14	40/70, PW 40/70, Bulk Sand	17,273.00	238,656.00
14	40/70, PW 40/70, Bulk Sand	24,881.00	263,537.00
14	40/70, PW 40/70, Bulk Sand	31,158.00	294,695.00
14	40/70, PW 40/70, Bulk Sand	33,511.00	328,206.00
15	100 mesh, 100 Mesh, Bulk Sand	3,792.00	4,154.00
15	100 mesh, 100 Mesh, Bulk Sand	8,185.00	12,339.00
15	100 mesh, 100 Mesh, Bulk Sand	10,857.00	23,196.00
15	100 mesh, 100 Mesh, Bulk Sand	15,076.00	38,272.00
15	100 mesh, 100 Mesh, Bulk Sand	14,882.00	53,154.00
15	40/70, PW 40/70, Bulk Sand	8,111.00	61,348.00
15	40/70, PW 40/70, Bulk Sand	17,130.00	78,478.00
15	40/70, PW 40/70, Bulk Sand	24,656.00	103,134.00
15	40/70, PW 40/70, Bulk Sand	32,207.00	135,341.00
15	40/70, PW 40/70, Bulk Sand	24,822.00	160,163.00
15	100 mesh, 100 Mesh, Bulk Sand	4,392.00	164,644.00
15	100 mesh, 100 Mesh, Bulk Sand	8,167.00	172,811.00
15	100 mesh, 100 Mesh, Bulk Sand	9,476.00	182,287.00
15	100 mesh, 100 Mesh, Bulk Sand	16,511.00	198,798.00
15	100 mesh, 100 Mesh, Bulk Sand	15,085.00	213,883.00
15	40/70, PW 40/70, Bulk Sand	7,799.00	221,839.00
15	40/70, PW 40/70, Bulk Sand	16,915.00	238,754.00
15	40/70, PW 40/70, Bulk Sand	25,210.00	263,964.00
15	40/70, PW 40/70, Bulk Sand	31,856.00	295,820.00
15	40/70, PW 40/70, Bulk Sand	26,126.00	321,946.00
16	100 mesh, 100 Mesh, Bulk Sand	4,254.00	4,300.00
16	100 mesh, 100 Mesh, Bulk Sand	7,932.00	12,232.00
16	100 mesh, 100 Mesh, Bulk Sand	9,669.00	21,901.00
16	100 mesh, 100 Mesh, Bulk Sand	16,242.00	38,143.00
16	100 mesh, 100 Mesh, Bulk Sand	12,291.00	50,434.00
16	40/70, PW 40/70, Bulk Sand	8,538.00	59,275.00
16	40/70, PW 40/70, Bulk Sand	17,139.00	76,414.00
16	40/70, PW 40/70, Bulk Sand	24,997.00	101,411.00
16	40/70, PW 40/70, Bulk Sand	31,677.00	133,088.00

16	40/70, PW 40/70, Bulk Sand	27,315.00	160,403.00
16	100 mesh, 100 Mesh, Bulk Sand	4,355.00	164,895.00
16	100 mesh, 100 Mesh, Bulk Sand	8,857.00	173,752.00
16	100 mesh, 100 Mesh, Bulk Sand	10,685.00	184,437.00
16	100 mesh, 100 Mesh, Bulk Sand	18,096.00	202,533.00
16	100 mesh, 100 Mesh, Bulk Sand	13,772.00	216,305.00
16	40/70, PW 40/70, Bulk Sand	9,214.00	225,568.00
16	40/70, PW 40/70, Bulk Sand	17,208.00	242,776.00
16	40/70, PW 40/70, Bulk Sand	23,760.00	266,536.00
16	40/70, PW 40/70, Bulk Sand	31,942.00	298,478.00
16	40/70, PW 40/70, Bulk Sand	24,841.00	323,319.00
17	100 mesh, 100 Mesh, Bulk Sand	4,002.00	4,010.00
17	100 mesh, 100 Mesh, Bulk Sand	8,599.00	12,609.00
17	100 mesh, 100 Mesh, Bulk Sand	9,489.00	22,098.00
17	100 mesh, 100 Mesh, Bulk Sand	16,474.00	38,572.00
17	100 mesh, 100 Mesh, Bulk Sand	14,080.00	52,652.00
17	40/70, PW 40/70, Bulk Sand	8,437.00	61,307.00
17	40/70, PW 40/70, Bulk Sand	18,235.00	79,542.00
17	40/70, PW 40/70, Bulk Sand	23,628.00	103,170.00
17	40/70, PW 40/70, Bulk Sand	32,231.00	135,401.00
17	40/70, PW 40/70, Bulk Sand	25,302.00	160,703.00
17	100 mesh, 100 Mesh, Bulk Sand	3,399.00	164,616.00
17	100 mesh, 100 Mesh, Bulk Sand	8,280.00	172,896.00
17	100 mesh, 100 Mesh, Bulk Sand	9,538.00	182,434.00
17	100 mesh, 100 Mesh, Bulk Sand	16,363.00	198,797.00
17	100 mesh, 100 Mesh, Bulk Sand	13,997.00	212,794.00
17	40/70, PW 40/70, Bulk Sand	8,887.00	221,825.00
17	40/70, PW 40/70, Bulk Sand	17,088.00	238,913.00
17	40/70, PW 40/70, Bulk Sand	24,726.00	263,639.00
17	40/70, PW 40/70, Bulk Sand	32,242.00	295,881.00
17	40/70, PW 40/70, Bulk Sand	25,710.00	321,591.00
18	100 mesh, 100 Mesh, Bulk Sand	4,148.00	4,155.00
18	100 mesh, 100 Mesh, Bulk Sand	8,389.00	12,544.00
18	100 mesh, 100 Mesh, Bulk Sand	9,513.00	22,057.00
18	100 mesh, 100 Mesh, Bulk Sand	16,323.00	38,380.00
18	100 mesh, 100 Mesh, Bulk Sand	14,122.00	52,502.00
18	40/70, PW 40/70, Bulk Sand	8,738.00	61,289.00
18	40/70, PW 40/70, Bulk Sand	17,116.00	78,405.00
18	40/70, PW 40/70, Bulk Sand	24,724.00	103,129.00
18	40/70, PW 40/70, Bulk Sand	32,217.00	135,346.00
18	40/70, PW 40/70, Bulk Sand	26,106.00	161,452.00
18	100 mesh, 100 Mesh, Bulk Sand	3,419.00	164,932.00
18	100 mesh, 100 Mesh, Bulk Sand	7,992.00	172,924.00
18	100 mesh, 100 Mesh, Bulk Sand	9,468.00	182,392.00
18	100 mesh, 100 Mesh, Bulk Sand	16,289.00	198,681.00
18	100 mesh, 100 Mesh, Bulk Sand	14,391.00	213,072.00
18	40/70, PW 40/70, Bulk Sand	8,765.00	221,862.00

18	40/70, PW 40/70, Bulk Sand	17,072.00	238,934.00
18	40/70, PW 40/70, Bulk Sand	24,734.00	263,668.00
18	40/70, PW 40/70, Bulk Sand	32,232.00	295,900.00
18	40/70, PW 40/70, Bulk Sand	25,651.00	321,551.00
19	100 mesh, 100 Mesh, Bulk Sand	3,713.00	4,184.00
19	100 mesh, 100 Mesh, Bulk Sand	8,194.00	12,378.00
19	100 mesh, 100 Mesh, Bulk Sand	9,960.00	22,338.00
19	100 mesh, 100 Mesh, Bulk Sand	16,095.00	38,433.00
19	100 mesh, 100 Mesh, Bulk Sand	14,911.00	53,344.00
19	40/70, PW 40/70, Bulk Sand	7,986.00	61,342.00
19	40/70, PW 40/70, Bulk Sand	17,309.00	78,651.00
19	40/70, PW 40/70, Bulk Sand	24,788.00	103,439.00
19	40/70, PW 40/70, Bulk Sand	32,280.00	135,719.00
19	40/70, PW 40/70, Bulk Sand	24,172.00	159,891.00
19	100 mesh, 100 Mesh, Bulk Sand	4,447.00	164,650.00
19	100 mesh, 100 Mesh, Bulk Sand	8,205.00	172,855.00
19	100 mesh, 100 Mesh, Bulk Sand	9,506.00	182,361.00
19	100 mesh, 100 Mesh, Bulk Sand	16,341.00	198,702.00
19	100 mesh, 100 Mesh, Bulk Sand	15,439.00	214,141.00
19	40/70, PW 40/70, Bulk Sand	7,602.00	221,811.00
19	40/70, PW 40/70, Bulk Sand	17,119.00	238,930.00
19	40/70, PW 40/70, Bulk Sand	24,716.00	263,646.00
19	40/70, PW 40/70, Bulk Sand	32,182.00	295,828.00
19	40/70, PW 40/70, Bulk Sand	17,782.00	313,610.00
20	100 mesh, 100 Mesh, Bulk Sand	4,086.00	4,127.00
20	100 mesh, 100 Mesh, Bulk Sand	8,175.00	12,302.00
20	100 mesh, 100 Mesh, Bulk Sand	10,141.00	22,443.00
20	100 mesh, 100 Mesh, Bulk Sand	16,008.00	38,451.00
20	100 mesh, 100 Mesh, Bulk Sand	15,340.00	53,791.00
20	40/70, PW 40/70, Bulk Sand	7,512.00	61,327.00
20	40/70, PW 40/70, Bulk Sand	17,093.00	78,420.00
20	40/70, PW 40/70, Bulk Sand	24,966.00	103,386.00
20	40/70, PW 40/70, Bulk Sand	31,943.00	135,329.00
20	40/70, PW 40/70, Bulk Sand	25,242.00	160,571.00
20	100 mesh, 100 Mesh, Bulk Sand	3,859.00	164,571.00
20	100 mesh, 100 Mesh, Bulk Sand	8,270.00	172,841.00
20	100 mesh, 100 Mesh, Bulk Sand	9,548.00	182,389.00
20	100 mesh, 100 Mesh, Bulk Sand	16,312.00	198,701.00
20	100 mesh, 100 Mesh, Bulk Sand	15,073.00	213,774.00
20	40/70, PW 40/70, Bulk Sand	8,375.00	222,162.00
20	40/70, PW 40/70, Bulk Sand	16,854.00	239,016.00
20	40/70, PW 40/70, Bulk Sand	24,898.00	263,914.00
20	40/70, PW 40/70, Bulk Sand	31,905.00	295,819.00
20	40/70, PW 40/70, Bulk Sand	27,153.00	322,972.00
21	100 mesh, 100 Mesh, Bulk Sand	3,733.00	4,144.00
21	100 mesh, 100 Mesh, Bulk Sand	8,313.00	12,457.00
21	100 mesh, 100 Mesh, Bulk Sand	9,384.00	21,841.00

21	100 mesh, 100 Mesh, Bulk Sand	16,375.00	38,216.00
21	100 mesh, 100 Mesh, Bulk Sand	15,692.00	53,908.00
21	40/70, PW 40/70, Bulk Sand	7,466.00	61,374.00
21	40/70, PW 40/70, Bulk Sand	17,057.00	78,431.00
21	40/70, PW 40/70, Bulk Sand	24,701.00	103,132.00
21	40/70, PW 40/70, Bulk Sand	32,264.00	135,396.00
21	40/70, PW 40/70, Bulk Sand	21,522.00	156,918.00
21	100 mesh, 100 Mesh, Bulk Sand	6,924.00	164,508.00
21	100 mesh, 100 Mesh, Bulk Sand	8,370.00	172,878.00
21	100 mesh, 100 Mesh, Bulk Sand	9,602.00	182,480.00
21	100 mesh, 100 Mesh, Bulk Sand	16,163.00	198,643.00
21	100 mesh, 100 Mesh, Bulk Sand	15,734.00	214,377.00
21	40/70, PW 40/70, Bulk Sand	7,441.00	221,841.00
21	40/70, PW 40/70, Bulk Sand	17,112.00	238,953.00
21	40/70, PW 40/70, Bulk Sand	25,317.00	264,270.00
21	40/70, PW 40/70, Bulk Sand	33,590.00	297,860.00
21	40/70, PW 40/70, Bulk Sand	23,492.00	321,352.00
22	100 mesh, 100 Mesh, Bulk Sand	4,086.00	4,086.00
22	100 mesh, 100 Mesh, Bulk Sand	9,923.00	14,009.00
22	100 mesh, 100 Mesh, Bulk Sand	8,702.00	22,711.00
22	100 mesh, 100 Mesh, Bulk Sand	16,688.00	39,399.00
22	100 mesh, 100 Mesh, Bulk Sand	14,432.00	53,831.00
22	40/70, PW 40/70, Bulk Sand	7,425.00	61,352.00
22	40/70, PW 40/70, Bulk Sand	16,990.00	78,342.00
22	40/70, PW 40/70, Bulk Sand	24,787.00	103,129.00
22	40/70, PW 40/70, Bulk Sand	32,703.00	135,832.00
22	40/70, PW 40/70, Bulk Sand	24,905.00	160,737.00
22	100 mesh, 100 Mesh, Bulk Sand	2,918.00	164,694.00
22	100 mesh, 100 Mesh, Bulk Sand	7,569.00	172,263.00
22	100 mesh, 100 Mesh, Bulk Sand	11,279.00	183,542.00
22	100 mesh, 100 Mesh, Bulk Sand	15,071.00	198,613.00
22	100 mesh, 100 Mesh, Bulk Sand	16,040.00	214,653.00
22	40/70, PW 40/70, Bulk Sand	7,311.00	221,972.00
22	40/70, PW 40/70, Bulk Sand	17,026.00	238,998.00
22	40/70, PW 40/70, Bulk Sand	25,463.00	264,461.00
22	40/70, PW 40/70, Bulk Sand	31,513.00	295,974.00
22	40/70, PW 40/70, Bulk Sand	25,336.00	321,310.00
23	100 mesh, 100 Mesh, Bulk Sand	3,965.00	4,196.00
23	100 mesh, 100 Mesh, Bulk Sand	8,738.00	12,934.00
23	100 mesh, 100 Mesh, Bulk Sand	8,942.00	21,876.00
23	100 mesh, 100 Mesh, Bulk Sand	16,959.00	38,835.00
23	100 mesh, 100 Mesh, Bulk Sand	15,893.00	54,728.00
23	40/70, PW 40/70, Bulk Sand	7,280.00	62,035.00
23	40/70, PW 40/70, Bulk Sand	16,486.00	78,521.00
23	40/70, PW 40/70, Bulk Sand	25,427.00	103,948.00
23	40/70, PW 40/70, Bulk Sand	31,872.00	135,820.00
23	40/70, PW 40/70, Bulk Sand	24,699.00	160,519.00

23 100 mesh, 100 Mesh, Bulk Sand	3,774.00	164,605.00
23 100 mesh, 100 Mesh, Bulk Sand	8,203.00	172,808.00
23 100 mesh, 100 Mesh, Bulk Sand	9,527.00	182,335.00
23 100 mesh, 100 Mesh, Bulk Sand	16,553.00	198,888.00
23 100 mesh, 100 Mesh, Bulk Sand	15,079.00	213,967.00
23 40/70, PW 40/70, Bulk Sand	8,330.00	222,352.00
23 40/70, PW 40/70, Bulk Sand	16,609.00	238,961.00
23 40/70, PW 40/70, Bulk Sand	24,741.00	263,702.00
23 40/70, PW 40/70, Bulk Sand	32,195.00	295,897.00
23 40/70, PW 40/70, Bulk Sand	23,953.00	319,850.00
TOTAL =	7,210,491.00	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0723

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1281 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Artec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☒ AMENDED REPORT

"As Drilled"

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-43640	² Pool Code 97838	³ Pool Name Jennings, Upper Bone Spring, Shale
⁴ Property Code 317456	⁵ Property Name SD WE 15 FED P9	⁶ Well Number 511
⁷ OGRID No. 4323	⁸ Operator Name CHEVRON U.S.A. INC.	⁹ Elevation 3157

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	15	26 SOUTH	32 EAST, N.M.P.M.		12'	SOUTH	1471'	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	15	26 SOUTH	32 EAST, N.M.P.M.		178'	NORTH	2253'	EAST	LEA

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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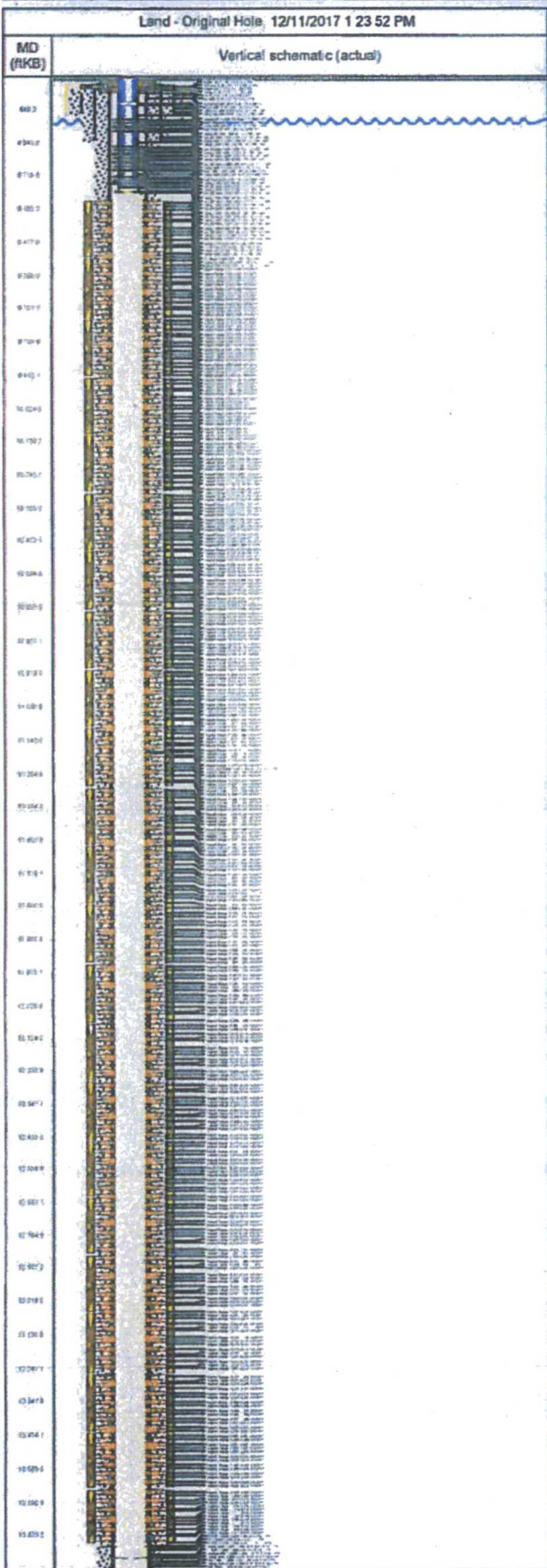
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

AS-DRILLED BOTTOM HOLE LOCATION X= 708,327 NAD 27 Y= 382,447 LAT. 32.049678 LONG. 103.660944 X= 749,514 NAD83 Y= 382,504 LAT. 32.049803 LONG. 103.661415 SD WE 15 FED P9 SH WELL X= 709,124 NAD 27 Y= 377,296 LAT. 32.035506 LONG. 103.658475 X= 750,311 NAD83 Y= 377,353 LAT. 32.035631 LONG. 103.658945 ELEVATION +3157 NAVD 88	LAST TAKE POINT X= 708,332 NAD 27 Y= 382,283 LAT. 32.049228 LONG. 103.660930 X= 749,519 NAD83 Y= 382,340 LAT. 32.049353 LONG. 103.661401 FIRST TAKE POINT X= 708,360 NAD 27 Y= 377,795 LAT. 32.036891 LONG. 103.660929 X= 749,548 NAD83 Y= 377,853 LAT. 32.037016 LONG. 103.661399	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or in a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>Denise Pinkerton</i> Date: <i>12/19/2017</i> Printed Name: <i>Denise Pinkerton</i> Email Address: <i>leakeid@chevron.com</i>
CORNER COORDINATES TABLE (NAD 27) A - Y=382821.59, X=707915.08 B - Y=382632.76, X=709247.41 C - Y=377273.21, X=707930.44 D - Y=377284.84, X=709262.41	SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief Date of Survey: <i>5-26-2016</i> Signature and Seal of Professional Surveyor: <i>Robert L. Lastrapes</i> Certificate Number: <i>23006</i>	Diagram Proposed Producing Interval Last Take Point at 13,831' MD 341.92' FNL 2248.56' FEL First Take Point at 9,337' MD 518.36' FSL 2,232.52' FEL



Wellbore Schematic

Well Name: SD WE 15 FED P9 5H | Well ID: SD WE 15 FED P9 | Well Name: JENNINGS | Well Status: Mid Continent



Job Details						
Job Category			Start Date		Rig/Unit End Date	
Completion			8/18/2017		10/29/2017	
Completion			10/30/2017		11/2/2017	
Casing Strings						
Csg Des	OD (in)	Wt/Len (lb/ft)	Grade	Top Thread	Set Depth (MD) (ftKB)	
Surface	13 3/8	54.50	J-55	ST&C	689	
Intermediate Casing 1	9 5/8	40.00	L-80	LT&C	4 533	
Production Casing	5 1/2	20.00	HCP110	TXPBTC	13 585	
Tubing Strings						
Tubing set at 8,837.0ftKB on 11/1/2017 12:00						
Tubing Description	Run Date	String Length (ft)	Set Depth (MD) (ftKB)			
Tubing	11/1/2017	8,815.70	8,837.0			
Item Des	Jts	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Botm (ftKB)
Tubing	1	2 7/8	6.50	L-80	31.24	52.5
Tubing Pup Joint	1	2 7/8	6.50	L-80	10.10	62.6
Tubing Pup Joint	1	2 7/8	6.50	L-80	6.10	68.7
Tubing	61	2 7/8	6.50	L-80	1,956.54	2,025.3
Gas Lift Valve	1	4 3/35			4.10	2,029.4
Tubing	29	2 7/8	6.50	L-80	1,031.88	3,061.2
Gas Lift Valve	1	4 3/35			4.10	3,065.3
Tubing	18	2 7/8	6.50	L-80	622.60	3,687.9
Gas Lift Valve	1	4 3/35			4.10	3,692.0
Tubing	18	2 7/8	6.50	L-80	583.60	4,285.6
Gas Lift Valve	1	4 3/35			4.10	4,289.7
Tubing	17	2 7/8	6.50	L-80	565.26	4,855.0
Gas Lift Valve	1	4 3/35			4.10	4,859.1
Tubing	18	2 7/8	6.50	L-80	533.89	5,393.0
Gas Lift Valve	1	4 3/35			4.10	5,397.1
Tubing	17	2 7/8	6.50	L-80	561.78	5,958.9
Gas Lift Valve	1	4 3/35			4.10	5,963.0
Tubing	18	2 7/8	6.50	L-80	525.65	6,488.5
Gas Lift Valve	1	4 3/35			4.10	6,492.6
Tubing	17	2 7/8	6.50	L-80	568.45	7,051.1
Gas Lift Valve	1	4 3/35			4.10	7,055.2
Tubing	17	2 7/8	6.50	L-80	565.13	7,620.3
Gas Lift Valve	1	4 3/35			4.10	7,624.4
Tubing	18	2 7/8	6.50	L-80	631.84	8,156.2
Gas Lift Valve	1	4 3/35			4.10	8,160.3
Tubing	19	2 7/8	6.50	L-80	555.12	8,716.5
Gas Lift Valve	1	4 3/35			4.10	8,720.6
Tubing	1	2 7/8	6.50	L-80	98.71	8,814.3
On Off Tool	1	4 1/2			1.50	8,815.8
Packer	1	4 1/2			7.80	8,823.6
Tubing	1	2 7/8	6.40	L-80	6.26	8,829.8
XN - Nipple	1	2 7/8			1.18	8,831.0
Tubing Pup Joint	1	2 7/8	6.50	L-80	4.10	8,835.1
Magnum Disk	1	3 658			1.91	8,837.0
Perforations						
Date	Top (ftKB)	Botm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone	
10/13/2017	9,337.0	9,338.0	2.0	2	Avalon, Original Hole	
10/13/2017	9,351.0	9,352.0	2.0	2	Avalon, Original Hole	
10/13/2017	9,365.0	9,366.0	2.0	2	Avalon, Original Hole	
10/13/2017	9,379.0	9,380.0	2.0	2	Avalon, Original Hole	
10/13/2017	9,393.0	9,394.0	2.0	2	Avalon, Original Hole	
10/13/2017	9,407.0	9,408.0	2.0	2	Avalon, Original Hole	
10/13/2017	9,421.0	9,422.0	2.0	2	Avalon, Original Hole	
10/13/2017	9,435.0	9,436.0	3.0	3	Avalon, Original Hole	
10/13/2017	9,449.0	9,450.0	3.0	3	Avalon, Original Hole	
10/13/2017	9,463.0	9,464.0	3.0	3	Avalon, Original Hole	



Wellbore Schematic

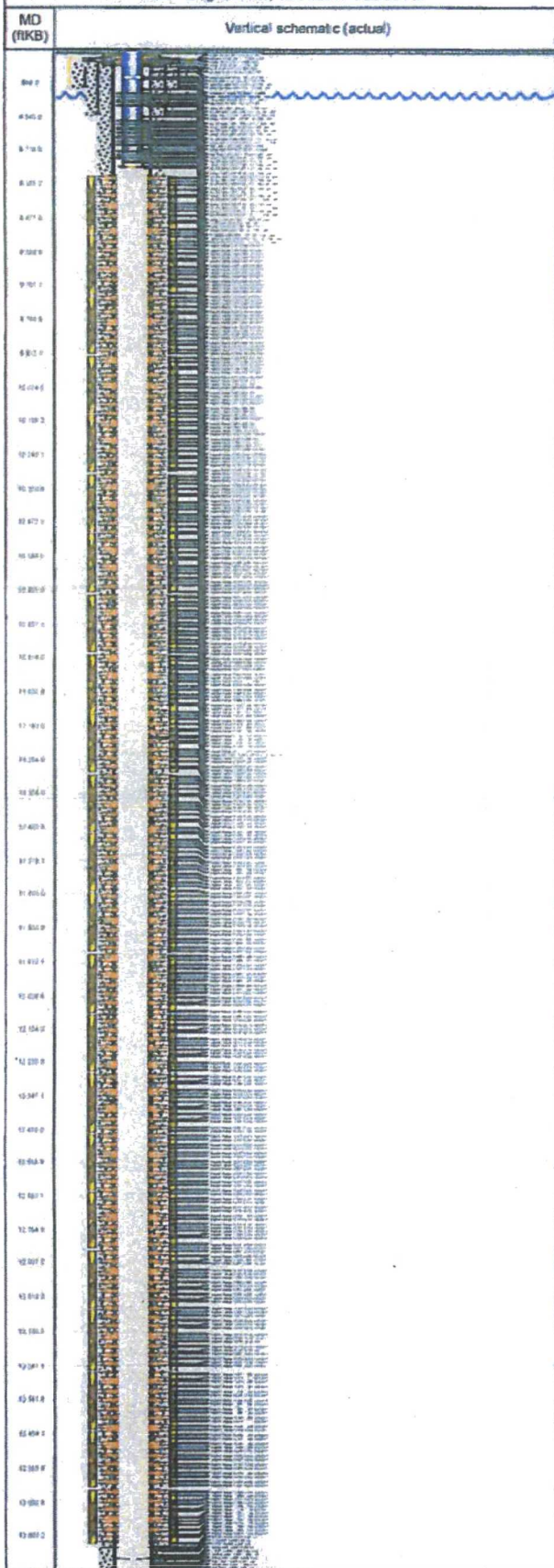
Well Name
SD WE 15 FED P9 5H

Location
SD WE 15 FED P9

Field Name
JENNINGS

Business Unit
Mid-Continent

Land - Original Hole, 12/11/2017 1 23 53 PM



Perforations

Date	Top (ftKB)	Botm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/13/2017	9,477.0	9,478.0	3.0	3	Avalon, Original Hole
10/13/2017	9,491.0	9,492.0	3.0	3	Avalon, Original Hole
10/13/2017	9,505.0	9,506.0	4.0	4	Avalon, Original Hole
10/13/2017	9,519.0	9,520.0	5.0	5	Avalon, Original Hole
10/13/2017	9,533.0	9,534.0	2.0	2	Avalon, Original Hole
10/13/2017	9,547.0	9,548.0	2.0	2	Avalon, Original Hole
10/13/2017	9,561.0	9,562.0	2.0	2	Avalon, Original Hole
10/13/2017	9,575.0	9,576.0	2.0	2	Avalon, Original Hole
10/13/2017	9,589.0	9,590.0	2.0	2	Avalon, Original Hole
10/13/2017	9,603.0	9,607.0	2.0	2	Avalon, Original Hole
10/13/2017	9,617.0	9,618.0	2.0	2	Avalon, Original Hole
10/13/2017	9,631.0	9,632.0	3.0	3	Avalon, Original Hole
10/13/2017	9,645.0	9,646.0	3.0	3	Avalon, Original Hole
10/13/2017	9,659.0	9,660.0	3.0	3	Avalon, Original Hole
10/13/2017	9,673.0	9,674.0	3.0	3	Avalon, Original Hole
10/13/2017	9,687.0	9,688.0	3.0	3	Avalon, Original Hole
10/13/2017	9,701.0	9,702.0	4.0	4	Avalon, Original Hole
10/13/2017	9,712.0	9,713.0	5.0	5	Avalon, Original Hole
10/13/2017	9,729.0	9,730.0	2.0	2	Avalon, Original Hole
10/12/2017	9,743.0	9,744.0	2.0	2	Avalon, Original Hole
10/12/2017	9,757.0	9,758.0	2.0	2	Avalon, Original Hole
10/12/2017	9,771.0	9,772.0	2.0	2	Avalon, Original Hole
10/12/2017	9,785.0	9,786.0	2.0	2	Avalon, Original Hole
10/12/2017	9,799.0	9,800.0	2.0	2	Avalon, Original Hole
10/12/2017	9,813.0	9,814.0	2.0	2	Avalon, Original Hole
10/12/2017	9,827.0	9,828.0	3.0	3	Avalon, Original Hole
10/12/2017	9,841.0	9,842.0	3.0	3	Avalon, Original Hole
10/12/2017	9,855.0	9,856.0	3.0	3	Avalon, Original Hole
10/12/2017	9,869.0	9,870.0	3.0	3	Avalon, Original Hole
10/12/2017	9,881.0	9,882.0	3.0	3	Avalon, Original Hole
10/12/2017	9,897.0	9,898.0	4.0	4	Avalon, Original Hole
10/12/2017	9,911.0	9,912.0	5.0	5	Avalon, Original Hole
10/12/2017	9,925.0	9,926.0	2.0	2	Avalon, Original Hole
10/12/2017	9,939.0	9,940.0	2.0	2	Avalon, Original Hole
10/12/2017	9,953.0	9,954.0	2.0	2	Avalon, Original Hole
10/12/2017	9,969.0	9,970.0	2.0	2	Avalon, Original Hole
10/12/2017	9,981.0	9,982.0	2.0	2	Avalon, Original Hole
10/12/2017	9,995.0	9,996.0	2.0	2	Avalon, Original Hole
10/12/2017	10,009.0	10,010.0	2.0	2	Avalon, Original Hole
10/12/2017	10,023.0	10,024.0	3.0	3	Avalon, Original Hole
10/12/2017	10,037.0	10,038.0	3.0	3	Avalon, Original Hole
10/12/2017	10,051.0	10,052.0	3.0	3	Avalon, Original Hole
10/12/2017	10,065.0	10,066.0	3.0	3	Avalon, Original Hole
10/12/2017	10,079.0	10,080.0	3.0	3	Avalon, Original Hole
10/12/2017	10,093.0	10,094.0	4.0	4	Avalon, Original Hole
10/12/2017	10,107.0	10,108.0	5.0	5	Avalon, Original Hole
10/11/2017	10,121.0	10,122.0	2.0	2	Avalon, Original Hole
10/11/2017	10,135.0	10,136.0	2.0	2	Avalon, Original Hole
10/11/2017	10,149.0	10,150.0	2.0	2	Avalon, Original Hole
10/11/2017	10,163.0	10,164.0	2.0	2	Avalon, Original Hole
10/11/2017	10,177.0	10,178.0	2.0	2	Avalon, Original Hole
10/11/2017	10,191.0	10,192.0	2.0	2	Avalon, Original Hole
10/11/2017	10,205.0	10,206.0	2.0	2	Avalon, Original Hole
10/11/2017	10,219.0	10,220.0	3.0	3	Avalon, Original Hole
10/11/2017	10,233.0	10,234.0	3.0	3	Avalon, Original Hole
10/11/2017	10,244.0	10,245.0	3.0	3	Avalon, Original Hole
10/11/2017	10,261.0	10,262.0	3.0	3	Avalon, Original Hole
10/11/2017	10,275.0	10,276.0	3.0	3	Avalon, Original Hole



Wellbore Schematic

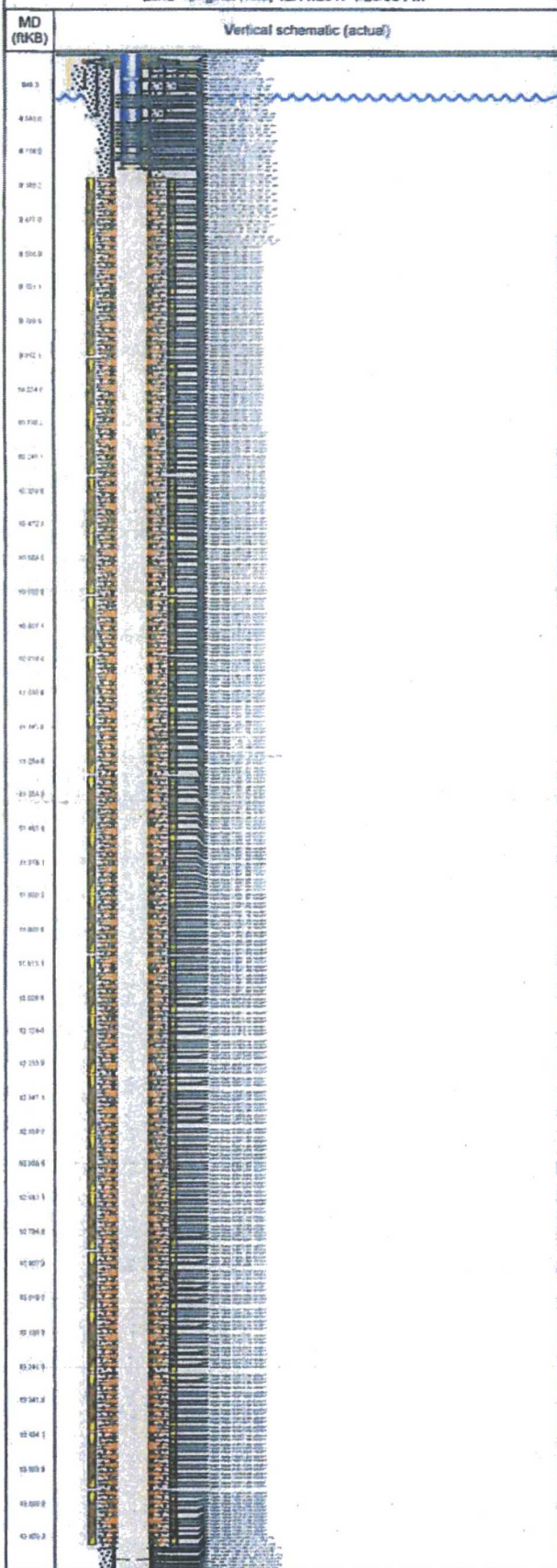
Well Name:
SD WE 15 FED P9 5H

Lease:
SD WE 15 FED P9

Field Name:
JENNINGS

Business Unit:
Mid-Continent

Land - Original Hole, 12/11/2017 1:23:53 PM



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/11/2017	10,289.0	10,290.0	4.0	4	Avalon, Original Hole
10/11/2017	10,300.0	10,304.0	5.0	5	Avalon, Original Hole
10/11/2017	10,317.0	10,318.0	2.0	2	Avalon, Original Hole
10/11/2017	10,331.0	10,332.0	2.0	2	Avalon, Original Hole
10/11/2017	10,345.0	10,348.0	2.0	2	Avalon, Original Hole
10/11/2017	10,355.0	10,360.0	2.0	2	Avalon, Original Hole
10/11/2017	10,373.0	10,374.0	2.0	2	Avalon, Original Hole
10/11/2017	10,387.0	10,388.0	2.0	2	Avalon, Original Hole
10/11/2017	10,401.0	10,402.0	2.0	2	Avalon, Original Hole
10/11/2017	10,415.0	10,418.0	3.0	3	Avalon, Original Hole
10/11/2017	10,429.0	10,430.0	3.0	3	Avalon, Original Hole
10/11/2017	10,443.0	10,444.0	3.0	3	Avalon, Original Hole
10/11/2017	10,457.0	10,458.0	3.0	3	Avalon, Original Hole
10/11/2017	10,471.0	10,472.0	3.0	3	Avalon, Original Hole
10/11/2017	10,485.0	10,486.0	4.0	4	Avalon, Original Hole
10/11/2017	10,499.0	10,500.0	5.0	5	Avalon, Original Hole
10/10/2017	10,513.0	10,514.0	2.0	2	Avalon, Original Hole
10/10/2017	10,527.0	10,528.0	2.0	2	Avalon, Original Hole
10/10/2017	10,541.0	10,542.0	2.0	2	Avalon, Original Hole
10/10/2017	10,555.0	10,556.0	2.0	2	Avalon, Original Hole
10/10/2017	10,569.0	10,570.0	2.0	2	Avalon, Original Hole
10/10/2017	10,583.0	10,584.0	2.0	2	Avalon, Original Hole
10/10/2017	10,597.0	10,598.0	3.0	3	Avalon, Original Hole
10/10/2017	10,611.0	10,612.0	3.0	3	Avalon, Original Hole
10/10/2017	10,625.0	10,626.0	3.0	3	Avalon, Original Hole
10/10/2017	10,639.0	10,640.0	3.0	3	Avalon, Original Hole
10/10/2017	10,653.0	10,654.0	3.0	3	Avalon, Original Hole
10/10/2017	10,667.0	10,668.0	4.0	4	Avalon, Original Hole
10/10/2017	10,681.0	10,682.0	5.0	5	Avalon, Original Hole
10/10/2017	10,695.0	10,697.0	2.0	2	Avalon, Original Hole
10/9/2017	10,709.0	10,710.0	2.0	2	Avalon, Original Hole
10/9/2017	10,723.0	10,724.0	2.0	2	Avalon, Original Hole
10/9/2017	10,737.0	10,738.0	2.0	2	Avalon, Original Hole
10/9/2017	10,751.0	10,752.0	2.0	2	Avalon, Original Hole
10/9/2017	10,765.0	10,766.0	2.0	2	Avalon, Original Hole
10/9/2017	10,779.0	10,780.0	2.0	2	Avalon, Original Hole
10/9/2017	10,793.0	10,794.0	2.0	2	Avalon, Original Hole
10/9/2017	10,807.0	10,808.0	3.0	3	Avalon, Original Hole
10/9/2017	10,821.0	10,822.0	3.0	3	Avalon, Original Hole
10/9/2017	10,835.0	10,836.0	3.0	3	Avalon, Original Hole
10/9/2017	10,849.0	10,850.0	3.0	3	Avalon, Original Hole
10/9/2017	10,863.0	10,864.0	3.0	3	Avalon, Original Hole
10/9/2017	10,877.0	10,878.0	4.0	4	Avalon, Original Hole
10/9/2017	10,891.0	10,892.0	5.0	5	Avalon, Original Hole
10/9/2017	10,905.0	10,906.0	2.0	2	Avalon, Original Hole
10/9/2017	10,919.0	10,920.0	2.0	2	Avalon, Original Hole
10/9/2017	10,933.0	10,934.0	2.0	2	Avalon, Original Hole
10/9/2017	10,947.0	10,948.0	2.0	2	Avalon, Original Hole
10/9/2017	10,961.0	10,962.0	2.0	2	Avalon, Original Hole
10/9/2017	10,975.0	10,976.0	2.0	2	Avalon, Original Hole
10/9/2017	10,989.0	10,990.0	2.0	2	Avalon, Original Hole
10/9/2017	11,003.0	11,004.0	3.0	3	Avalon, Original Hole
10/9/2017	11,017.0	11,018.0	3.0	3	Avalon, Original Hole
10/9/2017	11,031.0	11,032.0	3.0	3	Avalon, Original Hole
10/9/2017	11,045.0	11,046.0	3.0	3	Avalon, Original Hole
10/9/2017	11,059.0	11,060.0	3.0	3	Avalon, Original Hole
10/9/2017	11,073.0	11,074.0	4.0	4	Avalon, Original Hole
10/9/2017	11,087.0	11,088.0	5.0	5	Avalon, Original Hole



Wellbore Schematic

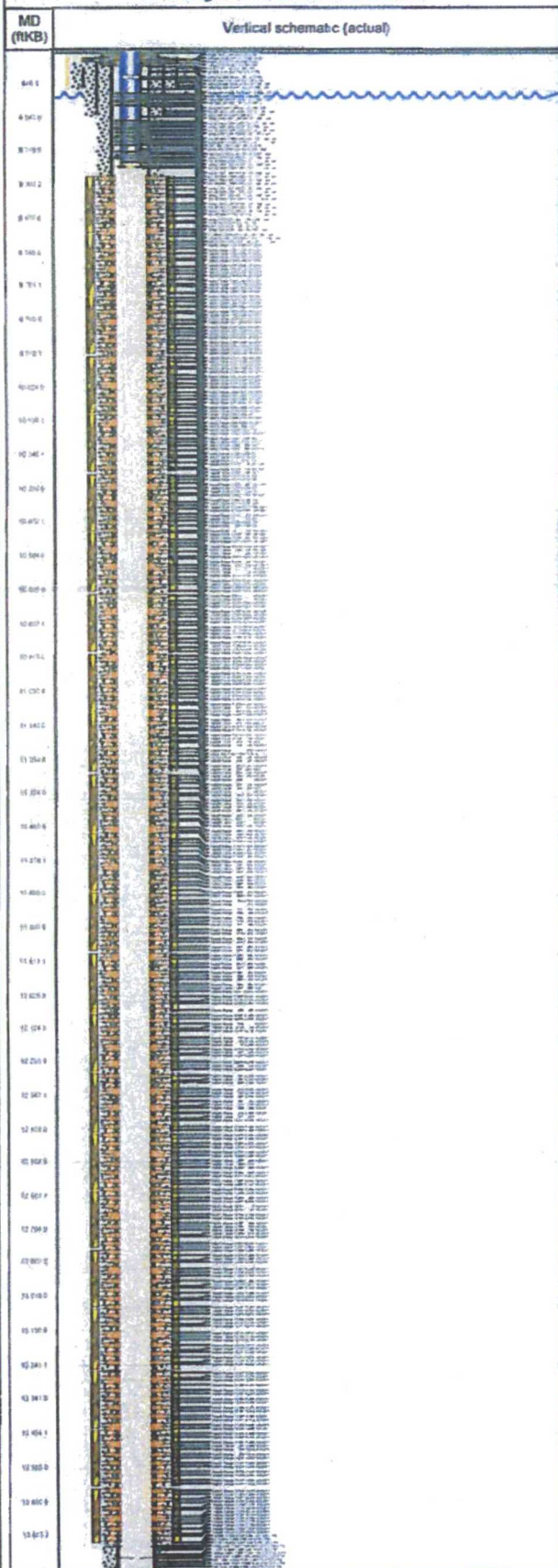
Well Name
SD WE 15 FED P9 5H

Case
SD WE 15 FED P9

Field Name
JENNINGS

Business Unit
Mid-Continent

Land - Original Hole. 12/11/2017 1 23 54 PM



Perforations

Date	Tcp (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/8/2017	11,101.0	11,102.0	2.0	2	Avalon, Original Hole
10/8/2017	11,116.0	11,117.0	2.0	2	Avalon, Original Hole
10/8/2017	11,129.0	11,130.0	2.0	2	Avalon, Original Hole
10/8/2017	11,143.0	11,144.0	2.0	2	Avalon, Original Hole
10/8/2017	11,158.0	11,159.0	2.0	2	Avalon, Original Hole
10/8/2017	11,171.0	11,172.0	2.0	2	Avalon, Original Hole
10/8/2017	11,185.0	11,186.0	2.0	2	Avalon, Original Hole
10/8/2017	11,200.0	11,201.0	3.0	3	Avalon, Original Hole
10/8/2017	11,213.0	11,214.0	3.0	3	Avalon, Original Hole
10/8/2017	11,227.0	11,228.0	3.0	3	Avalon, Original Hole
10/8/2017	11,242.0	11,243.0	3.0	3	Avalon, Original Hole
10/8/2017	11,255.0	11,256.0	3.0	3	Avalon, Original Hole
10/8/2017	11,269.0	11,270.0	4.0	4	Avalon, Original Hole
10/8/2017	11,282.0	11,283.0	5.0	5	Avalon, Original Hole
10/7/2017	11,297.0	11,298.0	2.0	2	Avalon, Original Hole
10/7/2017	11,311.0	11,312.0	2.0	2	Avalon, Original Hole
10/7/2017	11,325.0	11,326.0	2.0	2	Avalon, Original Hole
10/7/2017	11,339.0	11,340.0	2.0	2	Avalon, Original Hole
10/7/2017	11,353.0	11,354.0	2.0	2	Avalon, Original Hole
10/7/2017	11,367.0	11,368.0	2.0	2	Avalon, Original Hole
10/7/2017	11,381.0	11,382.0	2.0	2	Avalon, Original Hole
10/7/2017	11,395.0	11,396.0	3.0	3	Avalon, Original Hole
10/7/2017	11,409.0	11,410.0	3.0	3	Avalon, Original Hole
10/7/2017	11,423.0	11,424.0	3.0	3	Avalon, Original Hole
10/7/2017	11,437.0	11,438.0	3.0	3	Avalon, Original Hole
10/7/2017	11,451.0	11,452.0	3.0	3	Avalon, Original Hole
10/7/2017	11,465.0	11,466.0	4.0	4	Avalon, Original Hole
10/7/2017	11,479.0	11,480.0	5.0	5	Avalon, Original Hole
10/5/2017	11,493.0	11,494.0	2.0	2	Avalon, Original Hole
10/5/2017	11,507.0	11,508.0	2.0	2	Avalon, Original Hole
10/5/2017	11,521.0	11,522.0	2.0	2	Avalon, Original Hole
10/5/2017	11,535.0	11,536.0	2.0	2	Avalon, Original Hole
10/5/2017	11,549.0	11,550.0	2.0	2	Avalon, Original Hole
10/5/2017	11,563.0	11,564.0	2.0	2	Avalon, Original Hole
10/5/2017	11,577.0	11,578.0	2.0	2	Avalon, Original Hole
10/5/2017	11,591.0	11,592.0	3.0	3	Avalon, Original Hole
10/5/2017	11,605.0	11,606.0	3.0	3	Avalon, Original Hole
10/5/2017	11,619.0	11,620.0	3.0	3	Avalon, Original Hole
10/5/2017	11,633.0	11,634.0	3.0	3	Avalon, Original Hole
10/5/2017	11,647.0	11,648.0	3.0	3	Avalon, Original Hole
10/5/2017	11,661.0	11,662.0	4.0	4	Avalon, Original Hole
10/5/2017	11,675.0	11,676.0	5.0	5	Avalon, Original Hole
10/4/2017	11,689.0	11,690.0	2.0	2	Avalon, Original Hole
10/4/2017	11,703.0	11,704.0	2.0	2	Avalon, Original Hole
10/4/2017	11,717.0	11,718.0	2.0	2	Avalon, Original Hole
10/4/2017	11,731.0	11,732.0	2.0	2	Avalon, Original Hole
10/4/2017	11,745.0	11,746.0	2.0	2	Avalon, Original Hole
10/4/2017	11,759.0	11,760.0	2.0	2	Avalon, Original Hole
10/4/2017	11,773.0	11,774.0	2.0	2	Avalon, Original Hole
10/4/2017	11,787.0	11,788.0	3.0	3	Avalon, Original Hole
10/4/2017	11,801.0	11,802.0	3.0	3	Avalon, Original Hole
10/4/2017	11,815.0	11,816.0	3.0	3	Avalon, Original Hole
10/4/2017	11,829.0	11,830.0	3.0	3	Avalon, Original Hole
10/4/2017	11,843.0	11,844.0	3.0	3	Avalon, Original Hole
10/4/2017	11,857.0	11,858.0	4.0	4	Avalon, Original Hole
10/4/2017	11,871.0	11,872.0	5.0	5	Avalon, Original Hole
10/4/2017	11,885.0	11,886.0	2.0	2	Avalon, Original Hole
10/4/2017	11,899.0	11,900.0	2.0	2	Avalon, Original Hole



Wellbore Schematic

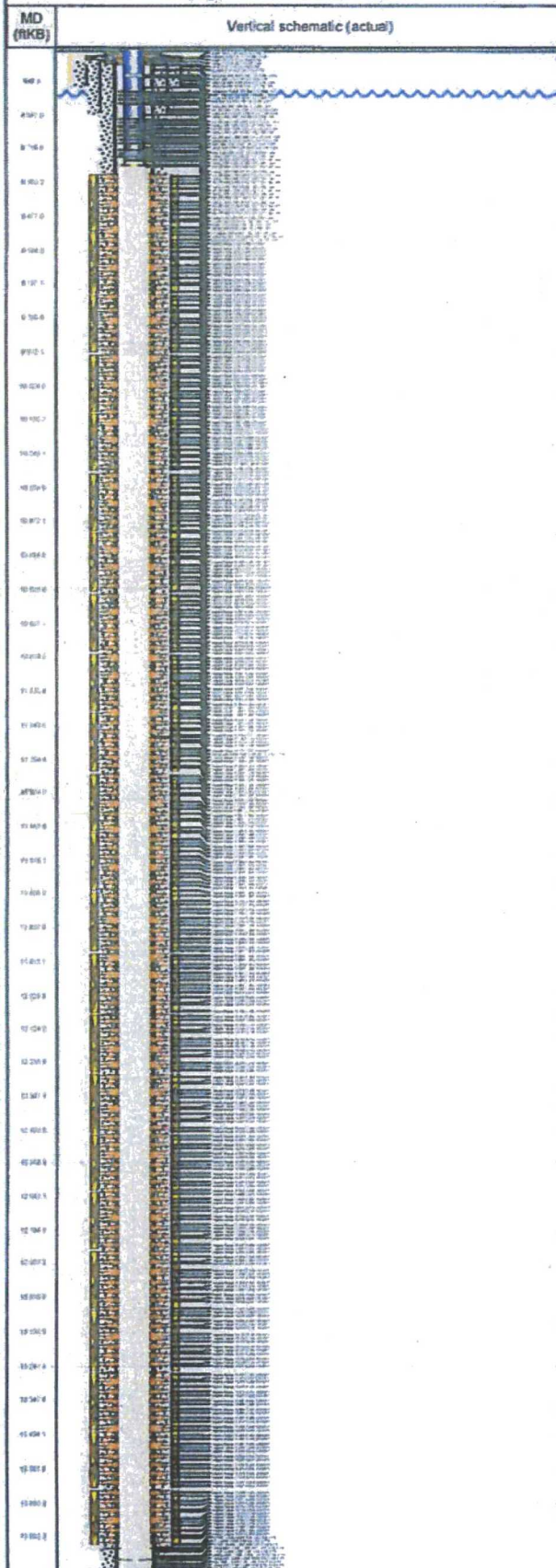
Well Name
SD WE 15 FED P9 5H

Lease
SD WE 15 FED P9

Field Name
JENNINGS

Business Unit
Mid-Continent

Land - Original Hole, 12/11/2017 1 23 55 PM



Perforations

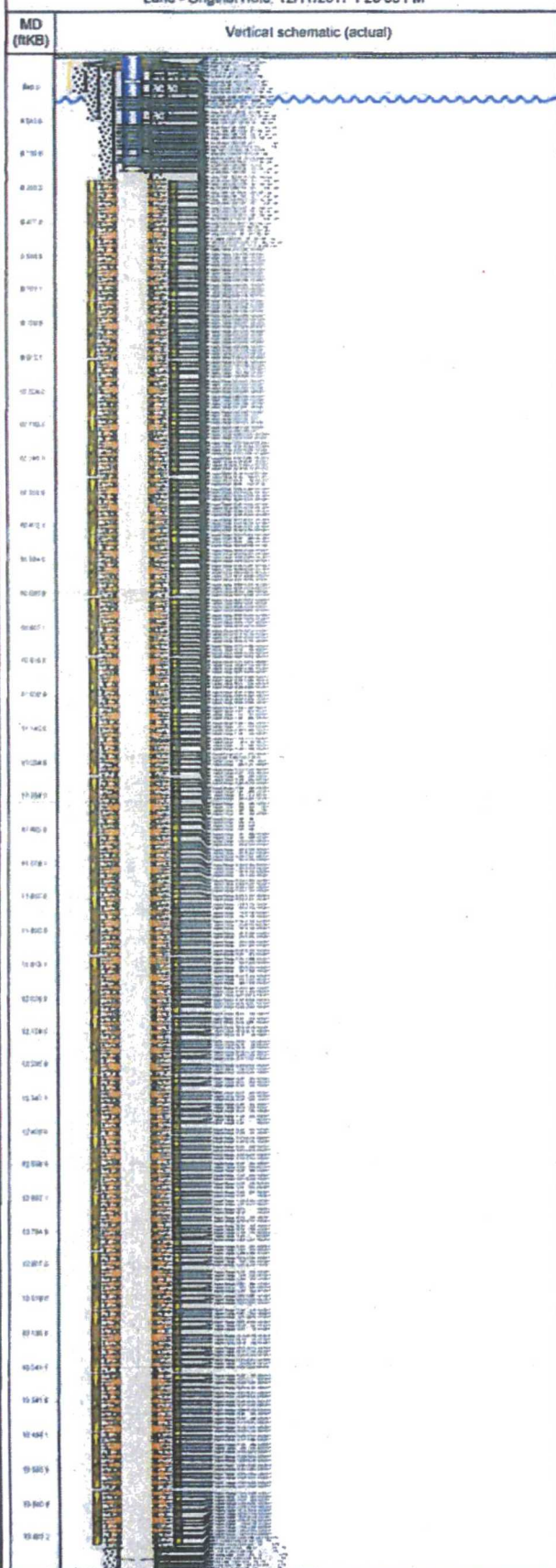
Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/4/2017	11,913.0	11,914.0	2.0	2	Avalon, Original Hole
10/4/2017	11,927.0	11,928.0	2.0	2	Avalon, Original Hole
10/4/2017	11,941.0	11,942.0	2.0	2	Avalon, Original Hole
10/4/2017	11,955.0	11,956.0	2.0	2	Avalon, Original Hole
10/4/2017	11,969.0	11,970.0	2.0	2	Avalon, Original Hole
10/4/2017	11,983.0	11,984.0	3.0	3	Avalon, Original Hole
10/4/2017	11,997.0	11,998.0	3.0	3	Avalon, Original Hole
10/4/2017	12,011.0	12,012.0	3.0	3	Avalon, Original Hole
10/4/2017	12,027.0	12,028.0	3.0	3	Avalon, Original Hole
10/4/2017	12,039.0	12,040.0	3.0	3	Avalon, Original Hole
10/4/2017	12,053.0	12,054.0	4.0	4	Avalon, Original Hole
10/4/2017	12,065.0	12,066.0	5.0	5	Avalon, Original Hole
10/3/2017	12,081.0	12,082.0	2.0	2	Avalon, Original Hole
10/3/2017	12,095.0	12,096.0	2.0	2	Avalon, Original Hole
10/3/2017	12,109.0	12,110.0	2.0	2	Avalon, Original Hole
10/3/2017	12,123.0	12,124.0	2.0	2	Avalon, Original Hole
10/3/2017	12,137.0	12,138.0	2.0	2	Avalon, Original Hole
10/3/2017	12,153.0	12,154.0	2.0	2	Avalon, Original Hole
10/3/2017	12,165.0	12,166.0	2.0	2	Avalon, Original Hole
10/3/2017	12,179.0	12,180.0	3.0	3	Avalon, Original Hole
10/3/2017	12,193.0	12,194.0	3.0	3	Avalon, Original Hole
10/3/2017	12,207.0	12,208.0	3.0	3	Avalon, Original Hole
10/3/2017	12,221.0	12,222.0	3.0	3	Avalon, Original Hole
10/3/2017	12,235.0	12,236.0	3.0	3	Avalon, Original Hole
10/3/2017	12,249.0	12,250.0	4.0	4	Avalon, Original Hole
10/3/2017	12,263.0	12,264.0	5.0	5	Avalon, Original Hole
10/3/2017	12,281.0	12,282.0	2.0	2	Avalon, Original Hole
10/3/2017	12,291.0	12,292.0	2.0	2	Avalon, Original Hole
10/3/2017	12,305.0	12,306.0	2.0	2	Avalon, Original Hole
10/3/2017	12,319.0	12,320.0	2.0	2	Avalon, Original Hole
10/3/2017	12,333.0	12,334.0	2.0	2	Avalon, Original Hole
10/3/2017	12,347.0	12,348.0	2.0	2	Avalon, Original Hole
10/3/2017	12,361.0	12,362.0	2.0	2	Avalon, Original Hole
10/3/2017	12,375.0	12,376.0	3.0	3	Avalon, Original Hole
10/3/2017	12,389.0	12,390.0	3.0	3	Avalon, Original Hole
10/3/2017	12,403.0	12,404.0	3.0	3	Avalon, Original Hole
10/3/2017	12,417.0	12,418.0	3.0	3	Avalon, Original Hole
10/3/2017	12,431.0	12,432.0	3.0	3	Avalon, Original Hole
10/3/2017	12,445.0	12,446.0	4.0	4	Avalon, Original Hole
10/3/2017	12,459.0	12,460.0	5.0	5	Avalon, Original Hole
10/2/2017	12,473.0	12,474.0	2.0	2	Avalon, Original Hole
10/2/2017	12,487.0	12,488.0	2.0	2	Avalon, Original Hole
10/2/2017	12,501.0	12,502.0	2.0	2	Avalon, Original Hole
10/2/2017	12,515.0	12,516.0	2.0	2	Avalon, Original Hole
10/2/2017	12,527.0	12,528.0	2.0	2	Avalon, Original Hole
10/2/2017	12,543.0	12,544.0	2.0	2	Avalon, Original Hole
10/2/2017	12,557.0	12,558.0	2.0	2	Avalon, Original Hole
10/2/2017	12,569.0	12,570.0	3.0	3	Avalon, Original Hole
10/2/2017	12,585.0	12,586.0	3.0	3	Avalon, Original Hole
10/2/2017	12,599.0	12,600.0	3.0	3	Avalon, Original Hole
10/2/2017	12,611.0	12,612.0	3.0	3	Avalon, Original Hole
10/2/2017	12,627.0	12,628.0	3.0	3	Avalon, Original Hole
10/2/2017	12,641.0	12,642.0	4.0	4	Avalon, Original Hole
10/2/2017	12,655.0	12,656.0	5.0	5	Avalon, Original Hole
10/2/2017	12,669.0	12,670.0	2.0	2	Avalon, Original Hole
10/2/2017	12,683.0	12,684.0	2.0	2	Avalon, Original Hole
10/2/2017	12,697.0	12,698.0	2.0	2	Avalon, Original Hole
10/2/2017	12,711.0	12,712.0	2.0	2	Avalon, Original Hole



Wellbore Schematic

Well Name: SD WE 15 FED P9 5H | Well ID: SD WE 15 FED P9 | Field Name: JENNINGS | Business Unit: Mid-Continent

Land - Original Hole, 12/11/2017 1 23 55 PM



Perforations

Date	Top (ftKB)	Bot (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/2/2017	12 725 0	12 726 0	2 0	2	Avalon, Original Hole
10/2/2017	12 739 0	12 740 0	2 0	2	Avalon, Original Hole
10/2/2017	12 753 0	12 754 0	2 0	2	Avalon, Original Hole
10/2/2017	12 767 0	12 768 0	3 0	3	Avalon, Original Hole
10/2/2017	12 781 0	12 782 0	3 0	3	Avalon, Original Hole
10/2/2017	12 795 0	12 796 0	3 0	3	Avalon, Original Hole
10/2/2017	12 809 0	12 810 0	3 0	3	Avalon, Original Hole
10/2/2017	12 823 0	12 824 0	3 0	3	Avalon, Original Hole
10/2/2017	12 837 0	12 838 0	4 0	4	Avalon, Original Hole
10/2/2017	12 851 0	12 852 0	5 0	5	Avalon, Original Hole
10/1/2017	12 865 0	12 866 0	2 0	2	Avalon, Original Hole
10/1/2017	12 879 0	12 880 0	2 0	2	Avalon, Original Hole
10/1/2017	12 893 0	12 894 0	2 0	2	Avalon, Original Hole
10/1/2017	12 907 0	12 908 0	2 0	2	Avalon, Original Hole
10/1/2017	12 921 0	12 922 0	2 0	2	Avalon, Original Hole
10/1/2017	12 935 0	12 936 0	2 0	2	Avalon, Original Hole
10/1/2017	12 949 0	12 950 0	2 0	2	Avalon, Original Hole
10/1/2017	12 963 0	12 964 0	3 0	3	Avalon, Original Hole
10/1/2017	12 975 0	12 976 0	3 0	3	Avalon, Original Hole
10/1/2017	12 991 0	12 992 0	3 0	3	Avalon, Original Hole
10/1/2017	13 005 0	13 006 0	3 0	3	Avalon, Original Hole
10/1/2017	13 019 0	13 020 0	3 0	3	Avalon, Original Hole
10/1/2017	13 033 0	13 034 0	4 0	4	Avalon, Original Hole
10/1/2017	13 047 0	13 048 0	5 0	5	Avalon, Original Hole
10/1/2017	13 061 0	13 062 0	2 0	2	Avalon, Original Hole
10/1/2017	13 075 0	13 076 0	2 0	2	Avalon, Original Hole
10/1/2017	13 089 0	13 090 0	2 0	2	Avalon, Original Hole
10/1/2017	13 103 0	13 104 0	2 0	2	Avalon, Original Hole
10/1/2017	13 117 0	13 118 0	2 0	2	Avalon, Original Hole
10/1/2017	13 131 0	13 132 0	2 0	2	Avalon, Original Hole
10/1/2017	13 145 0	13 146 0	2 0	2	Avalon, Original Hole
10/1/2017	13 159 0	13 160 0	3 0	3	Avalon, Original Hole
10/1/2017	13 173 0	13 174 0	3 0	3	Avalon, Original Hole
10/1/2017	13 187 0	13 188 0	3 0	3	Avalon, Original Hole
10/1/2017	13 201 0	13 202 0	3 0	3	Avalon, Original Hole
10/1/2017	13 215 0	13 216 0	3 0	3	Avalon, Original Hole
10/1/2017	13 229 0	13 230 0	4 0	4	Avalon, Original Hole
10/1/2017	13 241 0	13 242 0	5 0	5	Avalon, Original Hole
9/29/2017	13 257 0	13 258 0	2 0	2	Avalon, Original Hole
9/29/2017	13 271 0	13 272 0	2 0	2	Avalon, Original Hole
9/29/2017	13 285 0	13 286 0	2 0	2	Avalon, Original Hole
9/29/2017	13 299 0	13 300 0	2 0	2	Avalon, Original Hole
9/29/2017	13 313 0	13 314 0	2 0	2	Avalon, Original Hole
9/29/2017	13 327 0	13 328 0	2 0	2	Avalon, Original Hole
9/29/2017	13 341 0	13 342 0	2 0	2	Avalon, Original Hole
9/29/2017	13 355 0	13 356 0	3 0	3	Avalon, Original Hole
9/29/2017	13 369 0	13 370 0	3 0	3	Avalon, Original Hole
9/29/2017	13 381 0	13 382 0	3 0	3	Avalon, Original Hole
9/29/2017	13 397 0	13 398 0	3 0	3	Avalon, Original Hole
9/29/2017	13 411 0	13 412 0	3 0	3	Avalon, Original Hole
9/29/2017	13 425 0	13 426 0	4 0	4	Avalon, Original Hole
9/29/2017	13 439 0	13 440 0	5 0	5	Avalon, Original Hole
9/29/2017	13 453 0	13 454 0	2 0	2	Avalon, Original Hole
9/29/2017	13 467 0	13 468 0	2 0	2	Avalon, Original Hole
9/29/2017	13 481 0	13 482 0	2 0	2	Avalon, Original Hole
9/29/2017	13 495 0	13 496 0	2 0	2	Avalon, Original Hole
9/29/2017	13 509 0	13 510 0	2 0	2	Avalon, Original Hole
9/29/2017	13 523 0	13 524 0	2 0	2	Avalon, Original Hole



Wellbore Schematic

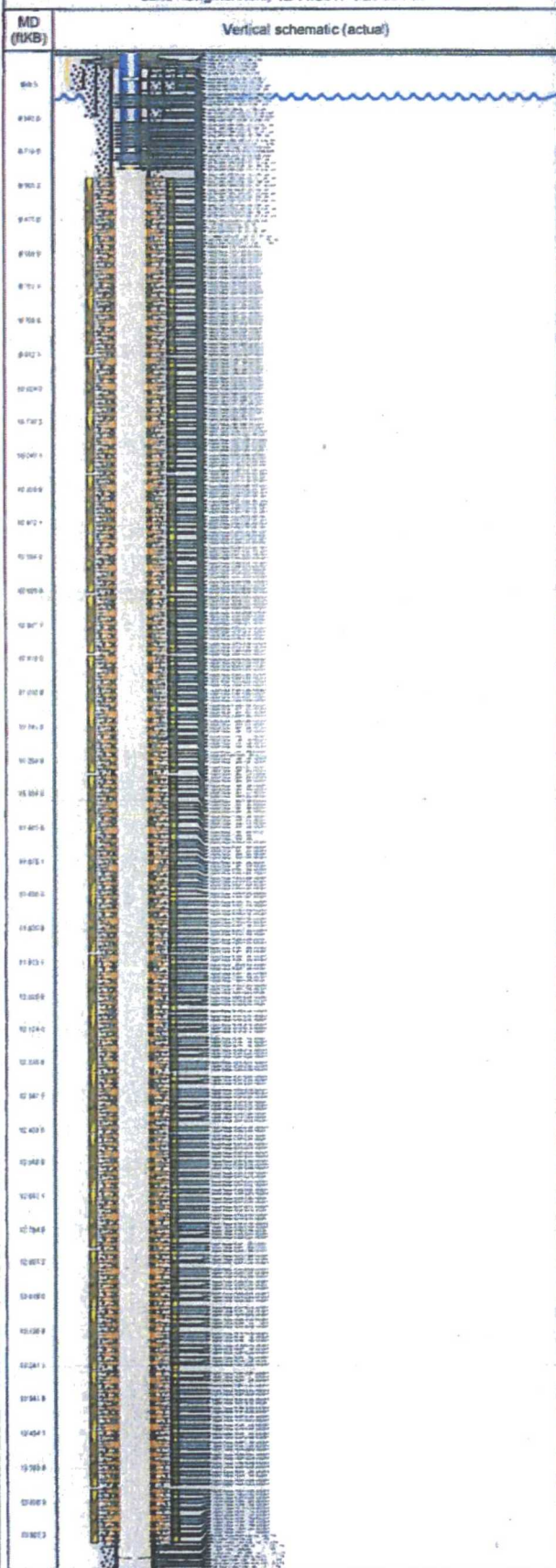
Well Name
SD WE 13 FED P9 5H

Well ID
SD WE 13 FED P9

Field Name
JENNINGS

Business Unit
Mid Continent

Land - Original Hole, 12/11/2017 1:23:56 PM



Perforations

Date	Top (ftKB)	Bottom (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
9/29/2017	13,537.0	13,538.0	3.0	3	Avalon, Original Hole
9/29/2017	13,551.0	13,552.0	3.0	3	Avalon, Original Hole
9/29/2017	13,565.0	13,566.0	3.0	3	Avalon, Original Hole
9/29/2017	13,579.0	13,580.0	3.0	3	Avalon, Original Hole
9/29/2017	13,593.0	13,594.0	3.0	3	Avalon, Original Hole
9/29/2017	13,607.0	13,608.0	4.0	4	Avalon, Original Hole
9/29/2017	13,621.0	13,622.0	5.0	5	Avalon, Original Hole
9/28/2017	13,649.0	13,650.0	3.0	2	Avalon, Original Hole
9/28/2017	13,663.0	13,664.0	3.0	2	Avalon, Original Hole
9/28/2017	13,677.0	13,678.0	3.0	2	Avalon, Original Hole
9/28/2017	13,691.0	13,692.0	3.0	2	Avalon, Original Hole
9/28/2017	13,705.0	13,706.0	3.0	2	Avalon, Original Hole
9/28/2017	13,719.0	13,720.0	3.0	2	Avalon, Original Hole
9/28/2017	13,733.0	13,734.0	3.0	3	Avalon, Original Hole
9/28/2017	13,747.0	13,748.0	3.0	3	Avalon, Original Hole
9/28/2017	13,761.0	13,762.0	3.0	3	Avalon, Original Hole
9/28/2017	13,775.0	13,776.0	3.0	3	Avalon, Original Hole
9/28/2017	13,789.0	13,790.0	3.0	3	Avalon, Original Hole
9/28/2017	13,803.0	13,804.0	4.0	4	Avalon, Original Hole
9/28/2017	13,817.0	13,818.0	5.0	5	Avalon, Original Hole

Other Strings

Run Date	Pull Date	Set Depth (ftKB)	Com

Other In Hole

Des	Top (ftKB)	Bottom (ftKB)	Run Date	Pull Date	Com
Packer (non-removable)	8,851.0	8,851.0	10/20/2017		Packer element at 8,851'
Composite Frac Plug (drop ball)	9,526.0	9,529.0	10/17/2017	10/20/2017	Stage 23
Composite Frac Plug (drop ball)	9,719.0	9,720.0	10/13/2017	10/20/2017	Stage 22
Composite Frac Plug (drop ball)	9,921.0	9,921.0	10/12/2017	10/20/2017	Stage 21
Composite Frac Plug (drop ball)	10,116.0	10,117.0	10/12/2017	10/20/2017	Stage 20
Composite Frac Plug (drop ball)	10,312.0	10,313.0	10/11/2017	10/20/2017	Stage 19
Composite Frac Plug (drop ball)	10,508.0	10,509.0	10/11/2017	10/20/2017	Stage 18
Composite Frac Plug (drop ball)	10,704.0	10,706.0	10/9/2017	10/20/2017	Stage 17
Composite Frac Plug (drop ball)	10,900.0	10,901.0	10/9/2017	10/20/2017	Stage 16
Composite Frac Plug (drop ball)	11,087.0	11,088.0	10/6/2017	10/20/2017	Stage 15
Composite Frac Plug (drop ball)	11,292.0	11,293.0	10/8/2017	10/20/2017	Stage 14
Composite Frac Plug (drop ball)	11,488.0	11,489.0	10/7/2017	10/20/2017	Stage 13
Composite Frac Plug (drop ball)	11,684.0	11,685.0	10/5/2017	10/20/2017	Stage 12
Composite Frac Plug (drop ball)	11,880.0	11,881.0	10/4/2017	10/20/2017	Stage 11
Composite Frac Plug (drop ball)	12,075.0	12,077.0	10/4/2017	10/20/2017	Stage 10
Composite Frac Plug (drop ball)	12,272.0	12,273.0	10/3/2017	10/20/2017	Stage 9
Composite Frac Plug (drop ball)	12,468.0	12,469.0	10/3/2017	10/20/2017	Stage 8
Composite Frac Plug (drop ball)	12,664.0	12,665.0	10/2/2017	10/21/2017	Stage 7



Wellbore Schematic

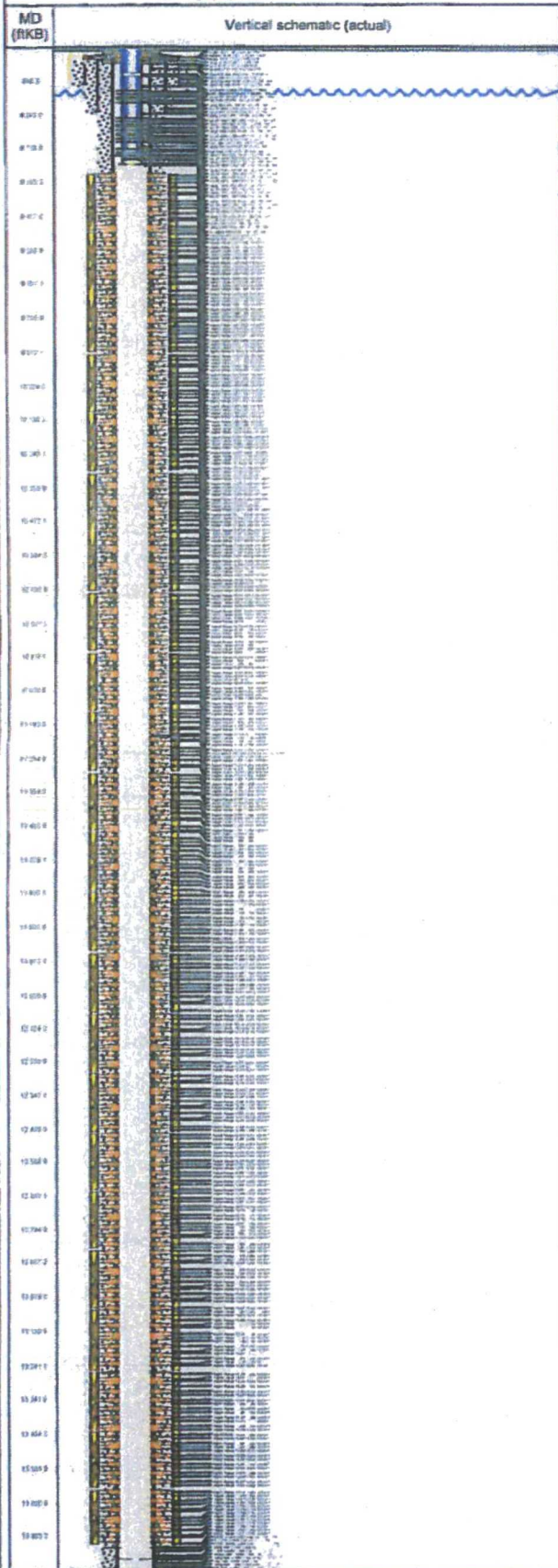
Well Name
SD WE 15 FED P9 5H

Lease
SD WE 15 FED P9

Field Name
JENNINGS

Business Unit
Mid-Continent

Land - Original Hole, 12/11/2017 1 23 57 PM



Other In Hole

Des	Top (ftKB)	Blm (ftKB)	Run Date	Pull Date	Com
Composite Frac Plug (drop ball)	12,860	12,861	10/2/2017	10/21/2017	Stage 6
Composite Frac Plug (drop ball)	13,056	13,057	10/1/2017	10/21/2017	Stage 5
Composite Frac Plug (drop ball)	13,252	13,253	10/1/2017	10/21/2017	Stage 4
Composite Frac Plug (drop ball)	13,448	13,449	9/29/2017	10/21/2017	Stage 3
Composite Frac Plug (drop ball)	13,644	13,645	9/29/2017	10/21/2017	Stage 2



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543640	Surface Chev No PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Blm (ftKB)	Phasing (*)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/13/2017	Shaped Charge	9,337.0	9,338.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,351.0	9,352.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,365.0	9,366.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,379.0	9,380.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,393.0	9,394.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,407.0	9,408.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,421.0	9,422.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,435.0	9,436.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,449.0	9,450.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,463.0	9,464.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,477.0	9,478.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,491.0	9,492.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,505.0	9,506.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,519.0	9,520.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 23
10/13/2017	Shaped Charge	9,533.0	9,534.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 22
10/13/2017	Shaped Charge	9,547.0	9,548.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 22
10/13/2017	Shaped Charge	9,561.0	9,562.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 22
10/13/2017	Shaped Charge	9,575.0	9,576.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 22
10/13/2017	Shaped Charge	9,589.0	9,590.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 22
10/13/2017	Shaped Charge	9,603.0	9,604.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 22
10/13/2017	Shaped Charge	9,617.0	9,618.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 22
10/13/2017	Shaped Charge	9,631.0	9,632.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 22



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Surface Unit Mid-Continent	Surface UWI 3002543640	Surface ChwNo PK8755
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Perforations														
Date	Perforation Type	Top (ftKB)	Bot (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com	
10/13/2017	Shaped Charge	9,645.0	9,646.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 22	
10/13/2017	Shaped Charge	9,659.0	9,660.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 22	
10/13/2017	Shaped Charge	9,673.0	9,674.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 22	
10/13/2017	Shaped Charge	9,687.0	9,688.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 22	
10/13/2017	Shaped Charge	9,701.0	9,702.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 22	
10/13/2017	Shaped Charge	9,712.0	9,713.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 22	
10/12/2017	Shaped Charge	9,729.0	9,730.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,743.0	9,744.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,757.0	9,758.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,771.0	9,772.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,785.0	9,786.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,799.0	9,800.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,813.0	9,814.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,827.0	9,828.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,841.0	9,842.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,855.0	9,856.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,869.0	9,870.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,881.0	9,882.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,897.0	9,898.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,911.0	9,912.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 21	
10/12/2017	Shaped Charge	9,925.0	9,926.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 20	
10/12/2017	Shaped Charge	9,939.0	9,940.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 20	



Perforation Summary

Well Name SD WE 16 FED P9 5H	Lease SD WE 16 FED P9	Field Name JENNINGS	Basin Name Mid-Continent	Surface UWI 3002543640	Surface Chev No PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Blm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carmer Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/12/2017	Shaped Charge	9,953.0	9,954.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	9,960.0	9,970.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	9,981.0	9,982.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	9,985.0	9,990.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	10,009.0	10,010.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	10,023.0	10,024.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	10,037.0	10,038.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	10,051.0	10,052.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	10,065.0	10,066.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	10,079.0	10,080.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	10,093.0	10,094.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 20
10/12/2017	Shaped Charge	10,107.0	10,108.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 20
10/11/2017	Shaped Charge	10,121.0	10,122.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,135.0	10,136.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,149.0	10,150.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,163.0	10,164.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,177.0	10,178.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,191.0	10,192.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,205.0	10,206.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,219.0	10,220.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,233.0	10,234.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,244.0	10,245.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 19



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface LHM 3002543640	Surface ChevNo PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Bot (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carmer Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/11/2017	Shaped Charge	10,261.0	10,262.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,275.0	10,276.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,289.0	10,290.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,303.0	10,304.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 19
10/11/2017	Shaped Charge	10,317.0	10,318.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,331.0	10,332.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,345.0	10,346.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,359.0	10,360.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,373.0	10,374.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,387.0	10,388.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,401.0	10,402.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,415.0	10,416.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,429.0	10,430.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,443.0	10,444.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,457.0	10,458.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,471.0	10,472.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,485.0	10,486.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 18
10/11/2017	Shaped Charge	10,499.0	10,500.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 18
10/10/2017	Shaped Charge	10,513.0	10,514.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,527.0	10,528.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,541.0	10,542.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,555.0	10,556.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 17



Perforation Summary

Well Name SD WE 15 FED P9 5H	Wellbore SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543640	Surface CrevNA PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Blm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Camera Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/10/2017	Shaped Charge	10,569.0	10,570.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,583.0	10,584.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,597.0	10,598.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,611.0	10,612.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,625.0	10,626.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,639.0	10,640.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,653.0	10,654.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,667.0	10,668.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,681.0	10,682.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 17
10/10/2017	Shaped Charge	10,695.0	10,697.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 17
10/9/2017	Shaped Charge	10,709.0	10,710.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,723.0	10,724.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,737.0	10,738.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,751.0	10,752.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,765.0	10,766.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,779.0	10,780.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,793.0	10,794.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,807.0	10,808.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,821.0	10,822.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,835.0	10,836.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,849.0	10,850.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,863.0	10,864.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 16



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface UOM 3002543640	Surface ChevNo PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Botm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carmer Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/9/2017	Shaped Charge	10,877.0	10,878.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,891.0	10,892.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 16
10/9/2017	Shaped Charge	10,905.0	10,906.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	10,919.0	10,920.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	10,933.0	10,934.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	10,945.0	10,946.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	10,961.0	10,962.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	10,975.0	10,976.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	10,989.0	10,990.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	11,003.0	11,004.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	11,017.0	11,018.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	11,031.0	11,032.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	11,045.0	11,046.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	11,059.0	11,060.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	11,073.0	11,074.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 15
10/9/2017	Shaped Charge	11,087.0	11,088.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 15
10/8/2017	Shaped Charge	11,101.0	11,102.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,115.0	11,117.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,129.0	11,130.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,143.0	11,144.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,159.0	11,159.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,171.0	11,172.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 14



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543640	Surface ChevNo PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/8/2017	Shaped Charge	11,185.0	11,186.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,200.0	11,201.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,213.0	11,214.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,227.0	11,228.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,242.0	11,243.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,255.0	11,256.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,269.0	11,270.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 14
10/8/2017	Shaped Charge	11,282.0	11,283.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 14
10/7/2017	Shaped Charge	11,207.0	11,208.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,311.0	11,312.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,325.0	11,326.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,339.0	11,340.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,353.0	11,354.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,357.0	11,358.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,381.0	11,382.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,395.0	11,396.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,409.0	11,410.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,423.0	11,424.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,437.0	11,438.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,451.0	11,452.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,465.0	11,466.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 13
10/7/2017	Shaped Charge	11,479.0	11,480.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 13



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543640	Surface Charge PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Botm (ftKB)	Phasing (*)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/5/2017	Shaped Charge	11,493.0	11,494.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,507.0	11,508.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,521.0	11,522.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,535.0	11,536.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,549.0	11,550.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,563.0	11,564.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,577.0	11,578.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,591.0	11,592.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,605.0	11,606.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,619.0	11,620.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,633.0	11,634.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,647.0	11,648.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,661.0	11,664.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 12
10/5/2017	Shaped Charge	11,675.0	11,676.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 12
10/4/2017	Shaped Charge	11,690.0	11,691.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,703.0	11,704.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,717.0	11,718.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,731.0	11,732.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,745.0	11,746.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,759.0	11,760.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,773.0	11,774.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,787.0	11,788.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 11



Perforation Summary

Well Name SD WE 15 FED P9 5H	Location SD WE 15 FED P9	Fracture Name JENNINGS	Business Unit Mid-Continent	Surface Uplift 3002543640	Surface Chevron PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Botm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/4/2017	Shaped Charge	11,801.0	11,802.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,815.0	11,816.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,829.0	11,830.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,843.0	11,844.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,857.0	11,858.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,871.0	11,872.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 11
10/4/2017	Shaped Charge	11,885.0	11,886.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	11,899.0	11,900.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	11,913.0	11,914.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	11,927.0	11,928.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	11,941.0	11,942.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	11,955.0	11,956.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	11,969.0	11,970.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	11,983.0	11,984.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	11,997.0	11,998.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	12,011.0	12,012.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	12,027.0	12,028.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	12,039.0	12,040.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	12,053.0	12,054.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 10
10/4/2017	Shaped Charge	12,065.0	12,066.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 10
10/3/2017	Shaped Charge	12,081.0	12,082.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,095.0	12,096.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 9



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface GWT 3002543640	Surface ChevNo PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Botm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/3/2017	Shaped Charge	12,109.0	12,110.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,123.0	12,124.5	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,137.0	12,138.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,153.0	12,154.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,165.0	12,166.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,179.0	12,180.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,193.0	12,194.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,207.0	12,208.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,221.0	12,222.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,235.0	12,236.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,249.0	12,250.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,263.0	12,264.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 9
10/3/2017	Shaped Charge	12,281.0	12,282.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,291.0	12,292.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,305.0	12,306.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,319.0	12,320.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,333.0	12,334.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,347.0	12,348.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,361.0	12,362.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,375.0	12,376.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,389.0	12,390.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,403.0	12,404.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 8



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543640	Surface Crew No PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Blm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Camer Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/3/2017	Shaped Charge	12,417.0	12,418.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,431.0	12,432.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,445.0	12,446.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 8
10/3/2017	Shaped Charge	12,459.0	12,460.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 8
10/2/2017	Shaped Charge	12,473.0	12,474.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,487.0	12,488.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,501.0	12,502.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,515.0	12,516.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,527.0	12,528.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,543.0	12,544.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,557.0	12,558.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,569.0	12,570.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,585.0	12,586.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,599.0	12,600.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,611.0	12,612.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,627.0	12,628.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,641.0	12,642.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,655.0	12,656.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 7
10/2/2017	Shaped Charge	12,669.0	12,670.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,683.0	12,684.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,697.0	12,698.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,711.0	12,712.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 6



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Bot. hole Unit Mid-Continent	Surface UWI 3002543640	Surface ChevNo PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Blm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carner Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/2/2017	Shaped Charge	12,725.0	12,726.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,739.0	12,740.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,753.0	12,754.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,767.0	12,768.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,781.0	12,782.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,795.0	12,796.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,809.0	12,810.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,823.0	12,824.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,837.0	12,838.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 6
10/2/2017	Shaped Charge	12,851.0	12,852.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 6
10/1/2017	Shaped Charge	12,865.0	12,866.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,879.0	12,880.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,893.0	12,894.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,907.0	12,908.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,921.0	12,922.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,935.0	12,936.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,949.0	12,950.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,963.0	12,964.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,975.0	12,976.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	12,991.0	12,992.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	13,005.0	13,006.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	13,019.0	13,020.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 5



Perforation Summary

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Basin Unit Mid-Continent	Surface UWI 3002543640	Surface ChwNo PK8755
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Perforations													
Date	Perforation Type	Top (ftKB)	Blm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carner Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
10/1/2017	Shaped Charge	13,033.0	13,034.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	13,047.0	13,048.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 5
10/1/2017	Shaped Charge	13,061.0	13,062.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,075.0	13,076.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,089.0	13,090.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,103.0	13,104.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,117.0	13,118.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,131.0	13,132.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,145.0	13,146.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,159.0	13,160.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,173.0	13,174.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,187.0	13,188.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,201.0	13,202.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,215.0	13,216.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,229.0	13,230.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 4
10/1/2017	Shaped Charge	13,241.0	13,242.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 4
9/29/2017	Shaped Charge	13,257.0	13,258.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 3
9/29/2017	Shaped Charge	13,271.0	13,272.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 3
9/29/2017	Shaped Charge	13,285.0	13,286.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 3
9/29/2017	Shaped Charge	13,299.0	13,300.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 3
9/29/2017	Shaped Charge	13,313.0	13,314.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 3
9/29/2017	Shaped Charge	13,327.0	13,328.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 3



Perforation Summary

Well Name SD WE 15 FED P9 5H	Log# SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface U/W 3002543840	Surface ChevNo PK8755
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Perforations														
Date	Perforation Type	Top (ftKB)	Blm (ftKB)	Phasing (*)	Gun Size (in)	Chg Sz (g)	Charge Make	Camera Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com	
9/29/2017	Shaped Charge	13,341.0	13,342.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 3	
9/29/2017	Shaped Charge	13,355.0	13,356.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 3	
9/29/2017	Shaped Charge	13,369.0	13,370.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 3	
9/29/2017	Shaped Charge	13,381.0	13,382.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 3	
9/29/2017	Shaped Charge	13,397.0	13,398.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 3	
9/29/2017	Shaped Charge	13,411.0	13,412.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 3	
9/29/2017	Shaped Charge	13,426.0	13,426.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 3	
9/29/2017	Shaped Charge	13,439.0	13,440.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 3	
9/29/2017	Shaped Charge	13,453.0	13,454.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,467.0	13,468.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,481.0	13,482.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,495.0	13,496.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,509.0	13,510.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,523.0	13,524.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	2.0	2	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,537.0	13,538.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,551.0	13,552.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,565.0	13,566.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,579.0	13,580.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,593.0	13,594.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,607.0	13,608.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 2	
9/29/2017	Shaped Charge	13,621.0	13,622.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	5.0	5	0	Halliburton	Stage 2	
9/28/2017	Shaped Charge	13,649.0	13,650.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	2	0	Halliburton	Stage 1	



Perforation Summary

Well Name SD WE 15 FED P9 5H	Wellbore SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543640	Surface ChevNo PK8755
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Perforations

Date	Perforation Type	Top (ftKB)	Botm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
9/28/2017	Shaped Charge	13,663.0	13,664.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	2	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,677.0	13,678.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	2	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,691.0	13,692.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	2	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,705.0	13,706.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	2	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,719.0	13,720.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	2	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,733.0	13,734.0	180	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,747.0	13,748.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,761.0	13,762.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,775.0	13,776.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,789.0	13,790.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	3.0	3	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,803.0	13,804.0	120	3 1/8	21.0	Halliburton Energy Services	JRC	4.0	4	0	Halliburton	Stage 1
9/28/2017	Shaped Charge	13,817.0	13,818.0	60	3 1/8	21.0	Halliburton Energy Services	JRC	6.0	5	0	Halliburton	Stage 1



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Page 1 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Tranlam
Scale	0.999959	Report Generated	6/21/2017 at 2:13:12 PM
Convergence at slot	0.36° East	Database/Source file	WA_Midland/SD_WE_15_Federal_P9_No_5H_awp_263_-13942_Proj_13995_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	709124.00	377296.00	32°02'07.819"N	103°39'30.510"W
Facility Reference Pt			709124.00	377296.00	32°02'07.819"N	103°39'30.510"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig: Nabors X30 (KB) to Facility Vertical Datum	3189.60ft
Horizontal Reference Pt	Slot	Rig: Nabors X30 (KB) to Mean Sea Level	3189.60ft
Vertical Reference Pt	Rig: Nabors X30 (KB)	Rig: Nabors X30 (KB) to Ground Level at Slot (SD WE 15 Fed P9 No. 5H)	32.60ft
MD Reference Pt	Rig: Nabors X30 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.84°

We hereby certify that the surveys contained herein, are to the best of our knowledge a true and accurate account of the well.


MWD COORDINATOR



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Page 2 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations) † = interpolated/extrapolated station

MD (ft)	Inclination [°]	Azimuth [°]	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	271.000	0.00	0.00	0.00	0.00	709124.00	377296.00	32°02'07.819"N	103°39'30.510"W	0.00	
32.60	0.000	271.000	32.60	0.00	0.00	0.00	709124.00	377296.00	32°02'07.819"N	103°39'30.510"W	0.00	
263.00	1.000	271.000	262.99	0.04	0.04	-2.01	709121.99	377296.04	32°02'07.820"N	103°39'30.533"W	0.43	
358.00	1.300	278.000	357.97	0.21	0.20	-3.91	709120.09	377296.20	32°02'07.821"N	103°39'30.555"W	0.35	
448.00	1.300	294.000	448.85	0.78	0.76	-5.87	709118.13	377296.78	32°02'07.827"N	103°39'30.578"W	0.40	
540.00	1.200	301.000	539.92	1.70	1.67	-7.63	709116.37	377297.87	32°02'07.836"N	103°39'30.598"W	0.20	
632.00	1.300	295.000	631.90	2.64	2.61	-9.40	709114.60	377298.61	32°02'07.846"N	103°39'30.619"W	0.18	
672.00	1.500	299.000	671.89	3.09	3.06	-10.27	709113.73	377299.06	32°02'07.850"N	103°39'30.629"W	0.56	
710.00	1.340	298.000	709.88	3.52	3.49	-11.11	709112.89	377299.49	32°02'07.854"N	103°39'30.638"W	0.48	
802.00	1.440	305.550	801.85	4.67	4.64	-13.01	709110.99	377300.84	32°02'07.866"N	103°39'30.680"W	0.27	
893.00	1.510	306.450	892.82	6.05	6.01	-14.91	709109.09	377302.01	32°02'07.880"N	103°39'30.682"W	0.08	
984.00	0.570	317.270	983.81	7.10	7.06	-16.18	709107.82	377303.06	32°02'07.890"N	103°39'30.697"W	1.05	
1074.00	0.220	355.530	1073.80	7.61	7.56	-16.50	709107.50	377303.56	32°02'07.895"N	103°39'30.701"W	0.47	
1164.00	0.220	43.340	1163.80	7.90	7.86	-16.39	709107.61	377303.86	32°02'07.898"N	103°39'30.700"W	0.20	
1262.00	0.130	100.130	1251.80	8.01	7.88	-16.18	709107.82	377303.98	32°02'07.899"N	103°39'30.697"W	0.21	
1341.00	0.200	139.650	1340.80	7.87	7.83	-15.98	709108.02	377303.83	32°02'07.898"N	103°39'30.695"W	0.15	
1429.00	0.250	167.320	1428.80	7.57	7.52	-15.84	709108.16	377303.52	32°02'07.895"N	103°39'30.693"W	0.13	
1518.00	0.380	168.000	1517.80	7.09	7.04	-15.73	709108.27	377303.04	32°02'07.890"N	103°39'30.692"W	0.15	
1608.00	0.330	193.400	1605.80	6.56	6.51	-15.73	709108.27	377302.51	32°02'07.885"N	103°39'30.692"W	0.19	
1698.00	0.310	168.630	1695.80	6.07	6.02	-15.73	709108.27	377302.02	32°02'07.880"N	103°39'30.692"W	0.17	
1784.00	0.630	172.550	1783.79	5.36	5.31	-15.62	709108.38	377301.31	32°02'07.873"N	103°39'30.691"W	0.37	
1873.00	0.780	192.010	1872.79	4.29	4.25	-15.68	709108.32	377300.25	32°02'07.862"N	103°39'30.691"W	0.30	
1961.00	0.800	210.500	1960.78	3.19	3.15	-16.11	709107.89	377299.15	32°02'07.851"N	103°39'30.697"W	0.29	
2050.00	1.270	208.920	2049.77	1.80	1.75	-16.90	709107.10	377297.75	32°02'07.838"N	103°39'30.706"W	0.53	
2138.00	1.440	209.810	2137.74	-0.01	-0.08	-17.92	709108.08	377295.94	32°02'07.820"N	103°39'30.718"W	0.19	
2227.00	1.670	210.140	2226.71	-2.10	-2.15	-19.13	709104.87	377293.85	32°02'07.799"N	103°39'30.732"W	0.26	
2316.00	2.630	231.430	2315.65	-4.49	-4.55	-21.38	709102.62	377291.45	32°02'07.775"N	103°39'30.758"W	1.39	
2405.00	4.790	251.880	2404.46	-6.90	-6.98	-26.51	709097.49	377289.02	32°02'07.752"N	103°39'30.818"W	2.81	
2493.00	6.110	258.950	2492.06	-8.92	-9.02	-34.60	709089.41	377286.98	32°02'07.732"N	103°39'30.912"W	1.68	
2583.00	7.090	264.170	2581.46	-10.38	-10.50	-44.82	709079.18	377285.50	32°02'07.718"N	103°39'31.031"W	1.28	



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'
Page 3 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations)

MD (ft)	Inclination [°]	Azimuth [°]	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS ("/100ft)	Comments
2671.00	8.570	273.900	2668.64	-10.45	-10.61	-56.77	709067.23	377285.39	32°02'07.718"N	103°39'31.170"W	2.25	
2781.00	9.250	280.450	2757.56	-8.64	-8.84	-70.57	709053.43	377287.16	32°02'07.736"N	103°39'31.330"W	1.36	
2849.00	8.830	285.260	2844.47	-5.54	-5.78	-84.04	709039.96	377290.22	32°02'07.767"N	103°39'31.486"W	0.98	
2938.00	8.680	286.820	2932.43	-1.77	-2.04	-97.06	709026.94	377293.96	32°02'07.805"N	103°39'31.637"W	0.32	
3027.00	8.880	288.520	3020.39	2.40	2.09	-110.00	709014.00	377298.09	32°02'07.847"N	103°39'31.787"W	0.37	
3115.00	8.610	288.150	3107.36	6.64	6.30	-122.70	709001.30	377302.30	32°02'07.889"N	103°39'31.935"W	0.31	
3205.00	8.400	289.880	3196.37	11.01	10.63	-135.29	708988.72	377306.63	32°02'07.933"N	103°39'32.080"W	0.37	
3294.00	7.520	287.960	3284.52	15.05	14.64	-146.94	708977.07	377310.64	32°02'07.973"N	103°39'32.216"W	1.03	
3382.00	7.010	280.860	3371.81	17.87	17.43	-157.69	708966.31	377313.42	32°02'08.001"N	103°39'32.340"W	1.17	
3471.00	6.840	274.000	3460.18	19.28	18.81	-168.16	708955.85	377314.81	32°02'08.016"N	103°39'32.462"W	1.01	
3560.00	6.460	276.490	3548.60	20.23	19.73	-178.27	708945.74	377315.73	32°02'08.025"N	103°39'32.579"W	0.38	
3649.00	6.530	276.780	3637.03	21.42	20.90	-188.27	708935.74	377316.89	32°02'08.038"N	103°39'32.695"W	0.09	
3737.00	7.090	273.330	3724.41	22.36	21.80	-198.66	708925.35	377317.80	32°02'08.047"N	103°39'32.816"W	0.79	
3826.00	7.350	271.870	3812.70	22.89	22.31	-209.83	708914.18	377318.31	32°02'08.053"N	103°39'32.945"W	0.36	
3914.00	6.880	289.900	3900.02	23.10	22.48	-220.73	708903.28	377318.48	32°02'08.055"N	103°39'33.072"W	0.60	
4003.00	6.660	269.050	3988.40	23.03	22.39	-231.22	708892.79	377318.39	32°02'08.055"N	103°39'33.194"W	0.27	
4091.00	6.670	272.360	4075.81	23.19	22.51	-241.43	708882.58	377318.51	32°02'08.057"N	103°39'33.313"W	0.44	
4180.00	6.260	270.010	4164.24	23.43	22.73	-251.44	708872.57	377318.73	32°02'08.060"N	103°39'33.429"W	0.55	
4268.00	6.530	265.700	4251.70	23.08	22.35	-261.23	708862.78	377318.35	32°02'08.057"N	103°39'33.543"W	0.63	
4357.00	6.860	264.680	4340.11	22.25	21.49	-271.42	708852.59	377317.49	32°02'08.049"N	103°39'33.661"W	0.20	
4446.00	6.790	265.090	4428.50	21.35	20.56	-281.60	708842.21	377316.56	32°02'08.040"N	103°39'33.782"W	0.16	12 1/4 BHI MWD 710' - 4446'
4616.00	6.680	264.200	4597.32	19.55	18.71	-301.65	708822.37	377314.70	32°02'08.023"N	103°39'34.012"W	0.09	
4792.00	9.300	266.760	4771.60	17.78	16.87	-326.03	708797.98	377312.87	32°02'08.006"N	103°39'34.296"W	1.50	
4969.00	9.560	273.350	4946.21	17.91	16.92	-354.99	708769.03	377312.92	32°02'08.009"N	103°39'34.632"W	0.63	
5146.00	9.480	275.150	5120.78	20.16	19.08	-384.18	708739.84	377315.08	32°02'08.032"N	103°39'34.971"W	0.17	
5323.00	9.880	274.000	5295.25	22.61	21.45	-413.84	708710.17	377317.45	32°02'08.057"N	103°39'35.315"W	0.25	
5501.00	8.100	283.810	5471.07	26.74	25.51	-441.26	708682.76	377321.51	32°02'08.099"N	103°39'35.634"W	1.32	
5678.00	7.810	288.100	5646.37	33.52	32.22	-464.80	708659.22	377328.22	32°02'08.167"N	103°39'35.907"W	0.37	
5856.00	7.710	287.990	5822.74	41.03	39.67	-487.65	708636.37	377335.67	32°02'08.242"N	103°39'36.171"W	0.06	
6033.00	8.120	288.310	5998.05	48.69	47.26	-510.81	708613.21	377343.26	32°02'08.318"N	103°39'36.440"W	0.23	



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Page 4 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6209.00	8.240	284.060	6172.26	55.73	54.23	-534.85	708589.18	377350.23	32°02'08.389"N	103°39'36.719"W	0.35	
6386.00	7.960	280.470	6347.50	61.10	59.54	-559.20	708564.82	377355.54	32°02'08.443"N	103°39'37.001"W	0.33	
6563.00	7.830	278.790	6522.82	65.24	63.61	-583.17	708540.86	377359.61	32°02'08.485"N	103°39'37.279"W	0.15	
6740.00	7.660	277.180	6698.21	68.62	66.93	-606.79	708517.24	377362.92	32°02'08.519"N	103°39'37.553"W	0.16	
6917.00	7.620	273.070	6873.64	70.79	69.03	-630.21	708493.82	377365.03	32°02'08.541"N	103°39'37.825"W	0.31	
7095.00	7.740	272.170	7050.04	71.94	70.12	-653.97	708470.05	377366.11	32°02'08.553"N	103°39'38.101"W	0.10	
7272.00	7.080	269.870	7225.56	72.43	70.54	-676.79	708447.24	377366.54	32°02'08.559"N	103°39'38.366"W	0.41	
7449.00	6.520	270.340	7401.32	72.53	70.58	-697.75	708426.28	377366.57	32°02'08.561"N	103°39'38.610"W	0.32	
7626.00	5.950	268.800	7577.27	72.45	70.45	-716.97	708407.06	377366.44	32°02'08.561"N	103°39'38.833"W	0.34	
7803.00	5.420	264.240	7753.40	71.47	69.41	-734.46	708389.57	377365.41	32°02'08.551"N	103°39'39.038"W	0.39	
7980.00	4.960	268.220	7929.67	70.43	68.34	-750.43	708373.61	377364.33	32°02'08.542"N	103°39'39.222"W	0.33	
8068.00	3.490	276.960	8017.43	70.66	68.54	-756.89	708367.15	377364.54	32°02'08.544"N	103°39'39.297"W	1.82	
8157.00	2.940	275.080	8106.29	71.20	69.07	-761.85	708362.18	377365.07	32°02'08.550"N	103°39'39.355"W	0.63	
8245.00	2.680	261.820	8194.19	71.12	68.98	-766.13	708357.90	377364.98	32°02'08.549"N	103°39'39.404"W	0.79	
8333.00	2.540	262.080	8282.10	70.57	68.42	-770.10	708353.93	377364.42	32°02'08.544"N	103°39'39.450"W	0.16	
8405.00	2.430	262.620	8354.03	70.16	68.00	-773.20	708350.84	377364.00	32°02'08.540"N	103°39'39.486"W	0.16	
8493.00	1.720	262.730	8441.97	69.77	67.60	-776.36	708347.68	377363.59	32°02'08.536"N	103°39'39.523"W	0.81	
8581.00	6.470	19.370	8529.79	74.28	72.11	-776.02	708348.01	377368.11	32°02'08.581"N	103°39'39.519"W	8.41	
8669.00	13.450	19.170	8616.41	88.63	86.48	-771.01	708353.02	377382.47	32°02'08.722"N	103°39'39.460"W	7.93	
8758.00	19.800	16.350	8701.65	112.87	110.74	-763.36	708380.87	377406.74	32°02'08.962"N	103°39'39.369"W	7.19	
8847.00	22.950	9.310	8784.53	144.45	142.34	-756.31	708367.73	377438.34	32°02'09.274"N	103°39'39.285"W	4.56	
8935.00	29.570	8.690	8863.40	182.88	180.78	-750.24	708373.79	377476.77	32°02'09.654"N	103°39'39.212"W	7.53	
9023.00	39.070	5.400	8936.01	232.05	229.97	-744.34	708379.69	377525.96	32°02'10.141"N	103°39'39.139"W	11.00	
9112.00	51.270	356.400	8998.70	294.92	292.84	-743.88	708380.16	377588.83	32°02'10.763"N	103°39'39.130"W	15.44	
9200.00	65.350	353.250	9044.82	369.29	367.20	-750.77	708373.26	377663.18	32°02'11.499"N	103°39'39.204"W	16.28	
9289.00	80.790	354.970	9070.66	453.76	451.64	-759.43	708364.61	377747.62	32°02'12.335"N	103°39'39.299"W	17.45	
9379.00	90.150	355.600	9077.76	543.09	540.95	-766.79	708357.24	377836.93	32°02'13.220"N	103°39'39.378"W	10.42	
9467.00	91.910	357.580	9076.18	630.93	628.78	-772.02	708352.01	377924.75	32°02'14.089"N	103°39'39.432"W	3.01	
9556.00	92.030	358.300	9073.12	719.83	717.67	-775.22	708348.81	378013.63	32°02'14.969"N	103°39'39.463"W	0.82	
9644.00	93.050	357.980	9069.22	807.70	805.53	-778.07	708345.96	378101.50	32°02'15.838"N	103°39'39.490"W	1.21	



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Page 5 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
9733.00	91.600	358.970	9065.61	896.60	894.42	-780.44	708343.59	378190.38	32°02'16.718"N	103°39'39.511"W	1.97	
9821.00	90.310	359.360	9064.14	984.58	982.40	-781.72	708342.31	378278.36	32°02'17.589"N	103°39'39.519"W	1.53	
9910.00	91.050	359.170	9063.08	1073.57	1071.38	-782.86	708341.17	378367.34	32°02'18.469"N	103°39'39.526"W	0.86	
9999.00	92.000	359.400	9060.72	1162.53	1160.35	-783.97	708340.08	378456.30	32°02'19.350"N	103°39'39.533"W	1.10	
10087.00	90.490	0.760	9058.80	1250.50	1248.32	-783.85	708340.18	378544.27	32°02'20.220"N	103°39'39.525"W	2.31	
10176.00	87.100	1.640	9060.68	1339.45	1337.27	-781.99	708342.05	378633.21	32°02'21.100"N	103°39'39.497"W	3.94	
10264.00	87.470	2.020	9064.84	1427.29	1425.12	-779.18	708344.85	378721.06	32°02'21.970"N	103°39'39.458"W	0.60	
10352.00	88.520	2.510	9067.92	1515.16	1513.00	-775.70	708348.33	378808.93	32°02'22.839"N	103°39'39.411"W	1.32	
10441.00	89.200	3.170	9069.69	1604.02	1601.87	-771.30	708352.74	378897.80	32°02'23.718"N	103°39'39.353"W	1.06	
10529.00	88.340	1.070	9071.58	1691.92	1689.78	-768.04	708355.99	378985.71	32°02'24.588"N	103°39'39.309"W	2.58	
10618.00	86.540	358.210	9075.56	1780.82	1778.68	-768.60	708355.43	379074.61	32°02'25.468"N	103°39'39.309"W	3.79	
10706.00	88.060	354.870	9079.71	1868.56	1866.41	-773.90	708350.13	379162.33	32°02'26.336"N	103°39'39.365"W	4.17	
10795.00	90.590	356.360	9080.75	1957.30	1955.13	-780.71	708343.33	379251.05	32°02'27.215"N	103°39'39.437"W	3.30	
10883.00	92.560	358.970	9078.33	2045.20	2043.01	-784.29	708339.74	379338.93	32°02'28.084"N	103°39'39.472"W	3.71	
10972.00	93.950	358.780	9073.28	2134.04	2131.85	-786.04	708338.00	379427.78	32°02'28.964"N	103°39'39.488"W	1.58	
11060.00	96.460	358.320	9065.30	2221.64	2219.45	-788.25	708335.78	379515.36	32°02'29.831"N	103°39'39.506"W	2.90	
11149.00	94.850	359.390	9056.53	2310.19	2308.00	-790.02	708334.01	379603.90	32°02'30.707"N	103°39'39.520"W	2.17	
11237.00	88.060	0.040	9054.30	2398.11	2395.92	-790.46	708333.58	379691.81	32°02'31.577"N	103°39'39.519"W	7.75	
11326.00	91.080	5.140	9054.96	2486.97	2484.78	-786.44	708337.60	379780.68	32°02'32.456"N	103°39'39.465"W	6.66	
11415.00	87.780	1.440	9055.85	2575.78	2573.60	-781.33	708342.70	379869.49	32°02'33.335"N	103°39'39.400"W	5.57	
11503.00	87.070	0.420	9059.80	2663.67	2661.50	-779.90	708344.13	379957.39	32°02'34.204"N	103°39'39.377"W	1.41	
11591.00	90.920	2.970	9061.35	2751.59	2749.43	-777.30	708346.73	380045.31	32°02'35.074"N	103°39'39.340"W	5.25	
11680.00	91.690	3.040	9059.32	2840.43	2838.28	-772.64	708351.40	380134.16	32°02'35.953"N	103°39'39.280"W	0.87	
11768.00	90.180	1.000	9057.88	2928.34	2926.21	-769.54	708354.50	380222.08	32°02'36.823"N	103°39'39.237"W	2.88	
11856.00	89.780	1.160	9057.91	3016.32	3014.19	-767.88	708356.16	380310.06	32°02'37.694"N	103°39'39.212"W	0.49	
11945.00	90.400	358.910	9057.77	3105.32	3103.18	-767.82	708356.21	380399.05	32°02'38.574"N	103°39'39.204"W	2.62	
12034.00	91.230	357.730	9056.51	3194.27	3192.13	-770.43	708353.60	380488.00	32°02'39.455"N	103°39'39.228"W	1.62	
12122.00	89.260	358.080	9056.13	3282.22	3280.07	-773.65	708350.39	380575.93	32°02'40.325"N	103°39'39.259"W	2.27	
12210.00	88.330	358.060	9057.98	3370.16	3368.00	-776.61	708347.42	380663.86	32°02'41.195"N	103°39'39.287"W	1.06	
12298.00	88.860	1.640	9060.14	3458.11	3455.96	-776.84	708347.19	380751.81	32°02'42.066"N	103°39'39.284"W	4.11	



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Page 6 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12387.00	91.420	2.400	9059.92	3547.04	3544.90	-773.70	708350.33	380840.74	32°02'42.946"N	103°39'39.241"W	3.00	
12475.00	90.220	1.700	9058.66	3634.97	3632.83	-770.58	708353.48	380928.67	32°02'43.816"N	103°39'39.198"W	1.58	
12564.00	89.140	0.330	9059.16	3723.94	3721.81	-768.98	708355.05	381017.65	32°02'44.696"N	103°39'39.173"W	1.96	
12653.00	89.850	0.270	9059.95	3812.93	3810.80	-768.51	708355.52	381106.64	32°02'45.577"N	103°39'39.161"W	0.80	
12742.00	91.420	0.430	9058.96	3901.92	3899.79	-767.97	708356.08	381195.63	32°02'46.457"N	103°39'39.149"W	1.77	
12831.00	93.080	0.950	9055.47	3990.84	3988.72	-766.90	708357.13	381284.54	32°02'47.337"N	103°39'39.130"W	1.95	
12919.00	91.420	0.260	9052.01	4078.76	4076.64	-765.97	708358.06	381372.46	32°02'48.207"N	103°39'39.113"W	2.04	
13008.00	92.710	1.960	9048.80	4167.68	4165.56	-764.25	708359.78	381461.38	32°02'49.087"N	103°39'39.086"W	2.40	
13096.00	91.850	359.570	9045.30	4255.59	4253.47	-763.08	708360.96	381549.29	32°02'49.957"N	103°39'39.068"W	2.88	
13185.00	92.560	359.310	9041.88	4344.52	4342.40	-763.95	708360.09	381638.22	32°02'50.837"N	103°39'39.070"W	0.85	
13273.00	92.740	358.380	9037.81	4432.41	4430.29	-765.72	708358.32	381726.10	32°02'51.707"N	103°39'39.084"W	1.08	
13362.00	90.740	357.640	9035.11	4521.32	4519.19	-768.81	708355.23	381815.00	32°02'52.587"N	103°39'39.113"W	2.40	
13450.00	90.770	356.530	9033.95	4609.21	4607.07	-773.28	708350.75	381902.87	32°02'53.456"N	103°39'39.159"W	1.26	
13539.00	92.860	356.740	9031.13	4698.02	4695.87	-778.50	708345.53	381991.66	32°02'54.335"N	103°39'39.213"W	2.36	
13627.00	94.910	356.840	9025.17	4785.69	4783.52	-783.42	708340.62	382079.32	32°02'55.203"N	103°39'39.264"W	2.33	
13715.00	92.060	357.880	9019.82	4873.43	4871.25	-787.46	708336.57	382167.05	32°02'56.072"N	103°39'39.305"W	3.45	
13804.00	92.250	357.880	9016.47	4962.32	4960.13	-790.75	708333.28	382255.92	32°02'56.951"N	103°39'39.336"W	0.21	
13892.00	94.040	358.110	9011.64	5050.14	5047.94	-793.83	708330.21	382343.72	32°02'57.820"N	103°39'39.366"W	2.05	
13942.00	94.720	358.250	9007.82	5099.97	5097.77	-795.41	708328.62	382393.55	32°02'58.314"N	103°39'39.381"W	1.39	3/4 BHI MWD 4616' - 13942'
13995.00	94.720	358.250	9003.48	5152.77	5150.58	-797.02	708327.01	382446.34	32°02'58.836"N	103°39'39.396"W	0.00	Projection to TD: 13995'



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Page 7 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SD WE 15 Fed P9 No. 5H 1850°VS from LP	9040.00	2404.87	-780.52	708343.51	379700.77	32°02'31.665"N	103°39'39.402"W	point
SD WE 15 Fed P9 No. 5H BHL rev 3	9040.00	5149.22	-788.03	708336.00	382445.00	32°02'58.822"N	103°39'39.291"W	rectangle
SD WE 15 Fed P9 No. 5H 3100°VS from LP	9058.00	3657.87	-783.95	708340.08	380953.71	32°02'44.064"N	103°39'39.352"W	point

WELLPATH COMPOSITION - Ref Wellbore: SD WE 15 Fed P9 No. 5H AWB Ref Wellpath: SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	672.00	ISCWSA MWD, Rev. 4 (Standard)	Imported teledrift 263' - 672'	SD WE 15 Fed P9 No. 5H AWB
672.00	4446.00	BHI NaviTrak (Standard)	12 1/4 BHI MWD 710' - 4446'	SD WE 15 Fed P9 No. 5H AWB
4446.00	13942.00	BHI NaviTrak (Standard)	8 3/4 BHI MWD 4616' - 13942'	SD WE 15 Fed P9 No. 5H AWB
13942.00	13995.00	Blind Drilling (std)	Projection to bit	SD WE 15 Fed P9 No. 5H AWB



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Page 8 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

COMMENTS

Wellpath general comments

Well: SD WE 15 Federal P9 No. 5H
Field: Jennings/Upper BN SPRN, Shale
Rig: Nabors X30
Location: Lea Co., NM
API: 30-025-43640-00
Latitude: 32° 02' 07.819" N
Longitude: 103° 39' 30.510" W
DF Elevation: 3189.6 feet
Elev. GL: 3157 feet
Proposed Direction: 359.84°
PBHL: 13995 feet
Duration: 04/24/2017-06/07/2017
FSE's: D. Hardeman
SO#: 8499552
12 1/4 BHI MWD 710' - 4446'
8 3/4 BHI MWD 4616' - 13942'
Projection to TD: 13995'